

## The Gazette



## of India

PUBLISHED BY AUTHORITY

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 No. 25] NEW DELHI, SATURDAY, JUNE 22, 1963/ASADHA 1, 1885
 

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## NOTICE

The undermention Gazettes of India Extraordinary was published upto the 2nd June 19 3—

Issue No.	No. and Date	Issued by	Subject
97	G.S.R. 953, dated 2nd June, 1963.	Ministry of Finance	The Central Sales Tax (Pondicherry) Rules, 1963.
	G.S.R. 954, dated 2nd June, 1963.	Do.	Appointing 3rd June, 1963 on which provisions of the Central Sales Tax Act, 1956, shall come into force in Pondicherry.
	G.S.R. 955, dated 2nd June, 1963.	Do.	Appointing 3rd July, 1963 on which every dealer in Pondicherry shall be liable to pay tax under the Central Sales Tax Act, 1956 on all sales of inter-state trade or Commerce.
	G.S.R. 956, dated 2nd June, 1963.	Do.	Extending the Central Sales Tax (Registration and Turnover) Rules, 1957 to Pondicherry subject to certain modifications given therein.
	G.S.R. 957, dated 2nd June, 1963.	Do.	Specification of Persons and authorities in Pondicherry to whom they shall apply for registration etc.
	G.S.R. 958, dated 2nd June, 1963.	Do.	Specifying that in relation to Pondicherry, the officer duly authorised by the Central Government or the Pondicherry Administration to effect purchases of goods on its behalf etc.

Copies of the Gazettes Extraordinary mentioned above will be supplied on indent to the Manager of Publications, Civil Lines, Delhi. Indents should be submitted so as to reach the Manager within ten days of the date of issue of these Gazettes.

**PART II—Section 3—Sub-section (i)**

**General Statutory Rules (including orders, bye-laws etc. of a general character) issued by the Ministries of the Government of India (other than the Ministry of Defence) and by Central Authorities (other than the Administrations of Union Territories).**

**MINISTRY OF LAW**

(Department of Legal Affairs)

*New Delhi, the 14th June 1963*

**G.S.R. 1026.—(Government Pleaders/Amendment).**—In exercise of the powers conferred by clause (a) of rule 8B of Order XXVII of the First Schedule to the Code of Civil Procedure, 1908 (5 of 1908), the Central Government hereby makes the following further amendments in the notification of the Government of India in the Ministry of Law, No. G.S.R. 1412, dated the 25th November, 1960,

In the schedule to the said notification:—

(a) in clause (b) of item 11, in the entries in the second column,—

(i) For "Shri Jindra Lal",

"Shri Shiv Narain Shankar" shall be substituted;

(ii) For "Shri Shiv Narain Shankar"

"Shri Prakash Narain" shall be substituted.

(b) for the entries against item 15, the following entries shall be substituted, namely:—

"15. Delhi:

(a) Circuit Bench of the Punjab High Court, Delhi.

(i) Shri Shiv Narain Shankar, Central Government Counsel.

(ii) Shri Prakash Narain, Additional Central Government Counsel.

(b) Other Courts

(i) Shri Jwala Pershad Chopra, Standing Government Counsel.

(ii) Shri Radha Krishna Mehra, Additional Standing Government Counsel.

(iii) Shri Prahlad Dayal, Deputy Standing Government Counsel."

[No. F. 15(2)/63-J.]

**R. R. DESAI, Jt. Secy.**

**MINISTRY OF HOME AFFAIRS***New Delhi, the 10th June 1963*

**G.S.R. 1027.**—In exercise of the powers conferred by the proviso to article 309 of the Constitution, the President hereby makes the following rules to amend the Assistant Directors and Deputy Assistant Directors (Class II Gazetted) (Central Emergency Relief Training Institute) Recruitment Rules, 1962, namely:—

1. These rules may be called the Assistant Directors and Deputy Assistant Directors (Class II Gazetted) (Central Emergency Relief Training Institute) Recruitment (Amendment) Rules, 1963.
2. In the Schedule to the Assistant Directors and Deputy Assistant Directors (Class II Gazetted) (Central Emergency Relief Training Institute)

Recruitment Rules, 1962 for the entries in column 8 against Serial No. 2 the following entries shall be substituted, namely:—

*“Essentials:*

1. Degree in medicine of a recognised University.
2. About three years experience in a Government hospital or dispensary.

Qualifications relaxable at Commissions discretion in case of candidates otherwise well-qualified.

*Desirable:*

1. Qualified as Instructor in First Aid and Nursing or in Casualty Service from a recognised Institute.
2. Adequate experience as Staff Officer (Casualty Service), or officer in charge, First Aid Post or of organising medical relief during floods, earthquakes or other such natural calamities, or of work in a relief camp.”

[No. 62/6/63-ER-I.]

C. L. GOYAL, Under Secy.

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ORDER

*New Delhi, the 13th June 1963*

**G.S.R. 1028.**—Whereas in the opinion of the Central Government the issue dated the 22nd April, 1963 of the Urdu newspaper entitled “Roznama Anjam”, edited, printed and published by Mohammed Umar Faruqi and printed at Manzur Aam Press, Peshawar, West Pakistan, contains prejudicial reports as defined in clause (7) of rule 35 of the Defence of India Rules, 1962;

Now, therefore, in exercise of the powers conferred by rule 45 of the Defence of India Rules, 1962, the Central Government hereby—

- (a) prohibits the further sale or distribution of the said issue or any extract therefrom or of any translation thereof, and declares the said issue and every copy or translation thereof or extract therefrom, to be forfeited to Government; and
- (b) directs every person possessing any copy of the said issue to deliver the same to the local police authorities.

[No. 59/70/63-Poll(II).]

B. S. RAGHAVAN, Dy. Secy.

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MINISTRY OF COMMERCE & INDUSTRY

*New Delhi, the 15th June 1963*

**G.S.R. 1029.**—In exercise of the powers conferred by section 13 of the Central Silk Board Act, 1948 (61 of 1948), the Central Government hereby makes the following rules further to amend the Central Silk Board Rules, 1955, namely:—

1. These rules may be called the Central Silk Board (Amendment) Rules, 1963.
2. In sub-rule 2 of rule 28 of the Central Silk Board Rules 1955, in clause (b), for the words “The Standing Committee of the Board, may,” the words “The Board may,” shall be substituted.

[No. F. 22/4/62-HS-2.]

R. KALYANASUNDARAM, Under Secy.

**MINISTRY OF TRANSPORT AND COMMUNICATIONS****(Department of Transport)****MERCHANT SHIPPING***New Delhi, the 22nd June 1963*

**G.S.R. 1030.**—In exercise of the powers conferred by clauses (a), (b), (c) and (d) of section 87 read with section 83 of the Merchant Shipping Act, 1958 (44 of 1958), and in supersession of all previous rules and orders on the subject, the Central Government hereby makes the following rules, namely—

**1. Short title and Commencement.**—(1) These rules may be called the Merchant Shipping (Examination of Engineers in the Merchant Navy) Rules, 1963.

(2) They shall come into force on such date as the Central Government may by notification in the Official Gazette appoint in this behalf.

**2. Definitions.**—In these rules, unless the context otherwise requires—

(a) "Act" means the Merchant Shipping Act, 1958 (44 of 1958);

(b) "Examiner" and "Chief Examiner" mean the persons specified in Appendix 'A'.

**3. Certificates of Competency.**—The Certificates of Competency may be either First or Second Class and in each class, the Certificates may be granted as follows:—

(i) Steam Certificates entitling the holders to serve as engineers in the grade certified in steamships.

(ii) Motor Certificates entitling the holders to serve as engineers in the grade certified in motor ships, i.e. ships propelled by diesel (internal combustion) engines.

(iii) Combined Steam and Motor Certificates entitling the holders to serve as engineers in the grade certified in both steam and motor ships.

**4. Endorsement of Certificates.**—Holders of First or Second Class Certificates, Steam or Motor, will, after serving the necessary period of qualifying sea time in the other type of ship and passing the endorsement examination in the same class as for the certificate which they hold, be furnished with a combined Steam and Motor Certificate, entitling them to serve in either type of ship. Candidates holding a First Class Certificate who have passed the Second Class examination only for the other type of ship will have their First Class Certificate endorsed accordingly.

**5. Certificates as Extra First Class Engineers.**—The examinations for the Extra First Class certificates are intended for officers who wish to prove their superior qualifications and to have certificates of the highest grade granted by the Central Government (see rules 45 and 69).

### **QUALIFICATIONS REQUIRED FOR THE VARIOUS GRADES OF CERTIFICATES OF COMPETENCY**

#### **SECOND CLASS CERTIFICATES AND ENDORSEMENTS**

**6. Qualifications for Second Class Certificate.**—(1) A candidate for a Second Class certificate must:

(a) be not less than 21 years of age;

(b) satisfy one or other of the requirements as regards workshop service or other training set out in rules 7 to 12, subject to the provisions as to compensatory sea service set out in rule 14; and

(c) have performed the requisite sea service set out in rule 15. He will be required to pass the examination as set out in rule 63.

(2) A candidate for the endorsement of a certificate must have performed the extra sea service set out in rule 16 and will be required to pass the examination as set out in rule 67.

## (A) Workshop Service

**7. Service as Apprentice Engineer or Fitter.**—A candidate must have performed satisfactory service for not less than four years as apprentice engineer or eight years as fitter (including apprenticeship in the trade) on work suitable for the training of a marine engineer in the manufacture or maintenance of machinery. Not less than one of these four years' workshop service required as apprentice engineer should have been devoted to fitting, erecting or repairing machinery of a suitable size or description (e.g. work on marine engines, substantial auxiliary machinery and steering gears of a type fitted in ships, or on motive power machinery which has a similar value in the training of marine engineers) either in the works or outside; the remaining three years as apprentice engineer may have been spent on work of this nature or on other suitable work, subject to a time allowance for each type of work, examples of which are specified below:—

Metal turning	Full time upto a maximum of two years.
Brass finishing	Full time upto a maximum of one year.
Boiler making or repairing of boilers	Full time upto a maximum of one year.
Pattern making	Full time upto a maximum of one year.
Planing, slotting shaping and milling	Full time upto a maximum of one year.
Tool room	Full time upto a maximum of one year.
Approved schemes of training in the use of hand and small machine tools	Full time upto a maximum of one year.
Smith work	Full time upto a maximum of six months
Coppersmith work	Full time upto a maximum of six months.
Welding	Full time upto a maximum of six months.
Work in drawing office as draughtsman or engineer engaged on arrangement, detail or design	Full time upto one year. When more than one year has been spent in the drawing office, only half the additional time will count.
Electrical shop or repair work not already covered above (excluding work of a minor nature)	Full time upto one year, additional at half rate. Maximum total 18 months.

**8. Full-time Technical College or University Course.**—As an alternative, the Chief Examiner will consider a candidate who has satisfactorily completed a full time course of study of at least the standard of a University degree in Engineering approved or recognised under rule 62, for a period of not less than three years at a Technical College or University. The candidate should have served for not less than 24 months in workshops on work suitable for the training of a marine engineer as prescribed in rule 7 above or otherwise to the satisfaction of the Chief Examiner. Not less than six consecutive months of this period should have been devoted to fitting, erecting or repairing machinery of a suitable size as required in that rule.

Suitable workshop training carried out during Technical College or University vacations and periods totalling not more than six months spent in works' apprentice training schemes for fitters and turners or on similar training in Technical College or University workshops will be allowed to count towards the required 24 months' service upto an overall maximum of nine months. Separate periods of training must be of not less than one month's duration.

**9. Student or Technical apprenticeships.**—As a further alternative, the Chief Examiner will consider a candidate who has performed satisfactory service for not less than four years in an organised student or technical apprenticeship accepted by the Central Government, provided that he has obtained one of the technical qualifications, referred to in rule 62 and has devoted not less than one year to fitting, erecting or repairing machinery of suitable size or description. The Chief

Examiner will be prepared to advise on the acceptability of any such apprenticeships for this purpose.

**10. Marine Engineer Training Schemes.**—The Central Government have also approved the Marine Engineering Course conducted by the Directorate of Marine Engineering Training, which consists of three years' workshop training in a recognised Marine Engineering Works combined with theoretical instructions conducted in evening classes. The workshop service is followed by further one year's full day classes in Advanced Marine Engineering subjects. Candidates who have satisfactorily completed this course of training, or any modification of this scheme which may be approved by the Central Government, or a similar scheme operated by recognised authorities in the United Kingdom, will be accepted.

**11. Schools outside India.**—Courses of study and apprenticeships served in the Commonwealth or in the Republic of Ireland or any other country whose courses of study and apprenticeships may be recognised as equivalent to courses of study and apprenticeships in India will be considered, but time spent in technical establishments in foreign countries will not be accepted except in special circumstances.

**12. Minimum age for apprenticeship.**—No period of workshop training or time devoted for apprenticeship spent before the age of 15 years can be accepted for the purpose of these rules.

**13. Testimonials.**—All candidates will be required to produce testimonials as to their workshop service. These testimonials must be signed by the employer or his representative, and must testify to the candidate's conduct and ability and state the kind of work on which he was engaged and the period of time spent in each branch, e.g. fitting, erecting, turning, machine work, etc. Testimonials will be returned to candidates when the examination is completed.

A specimen copy of the form of testimonial is set out in Appendix E. This form of testimonial is not applicable in the case of apprentices trained under one or other of the schemes set out in rule 10.

**14. Compensatory Service.**—Where candidates perform workshop service for the period of time prescribed in one of the rules 7, 8 or 9, deficiencies in any of the types of service which will be assessed in each case by the Chief Examiner, must be made up by further workshop service of a suitable character or by compensatory service on regular watch or on day work at sea.

Compensatory sea service must be performed either (a) on day work as engineer on board foreign-going or home-trade steamships of not less than 66 nominal horse-power and/or motor ships of not less than 373 brake horse-power, or (b) on regular watch on such ships as engineer. Time so spent on foreign-going ships will be accepted as having two-thirds of the value of suitable workshop service and on home-trade ships as having four-ninths of that value. No day work at sea performed before the age of 20 will be accepted.

#### (B) *Sea Service*

**15. Sea Service.**—Candidates for a Second Class Certificate of Competency must, in addition to the above requirements, have completed the following period of sea service:

- (a) *For a Steam Certificate*, 21 months, of which at least nine months must have been spent on the boilers and main propelling machinery of a steamship.

This period of at least nine months must have included at least six months' service on the boilers and six months' service on the main propelling machinery, but the service on the boilers and on the main propelling machinery may have been simultaneous.

The remaining twelve months (or balance of twelve months) may have been spent on the boilers of a steamship, or on the main propelling machinery of a steam or motor ship, or on suitable auxiliaries of a steam or motor ship (see rule 27) or on day work [see rule 17(a)]

- (b) *For a Motor Certificate*, 21 months, of which at least six months must have been spent on the main propelling machinery of a motor ship.

The remaining 15 months (or balance of 15 months) may have been spent on the main propelling machinery of a steam or motor ship, or on

suitable auxiliaries of a steam or motor ship (see rule 27), or to the extent of not more than six months on the boilers of a steamship, or on day work [see rule 17(a)].

(c) For a *Combined Steam and Motor Certificate*, 24 months, of which at least:

(i) Nine months must have been spent on the boilers and main propelling machinery of a steamship.

This period must have included at least six months' service on the boilers and six months' service on the main propelling machinery, but the service on the boilers and main propelling machinery may have been simultaneous; and

(ii) Six months must have been spent on the main propelling machinery of a motor ship.

The remaining nine months (or balance of nine months) may have been spent on the boilers of a steamship or on the main propelling machinery of a steam or motor ship or on suitable auxiliaries of a steam or motor ship (see rule 27), or on day work [see rule 17(a)].

**16. Further Sea Service.**—Candidates for the endorsement of a Second Class Certificate of Competency must have completed:

(a) for the *Motor Endorsement of a Steam Certificate*, a further period of three months, provided that not less than six months' service in all shall have been service on the main propelling machinery of a motor ship.

(b) for the *Steam Endorsement of a Motor Certificate*, a further period of six months, provided that not less than nine months' service in all shall have been service on the boilers and main propelling machinery of a steamship.

This period of at least nine months must have included at least six months' service on the boilers and six months' service on the main propelling machinery but the service on the boilers and on the main propelling machinery may have been simultaneous.

**17. Nature of Service.**—Service required under rules 15 and 16 must have been performed in foreign-going steamships of not less than 66 nominal horse-power and/or motor ships of not less than 373 brake horse-power, as an engineer at sea on regular watch, i.e. on watch for not less than eight out of each 24 hours' service claimed, except that:

(a) day work, by which is meant engineering work at sea other than that performed on regular watch, will be counted at half rate with a maximum allowance of six months towards the qualifying period of sea service, provided that the work has been carried out within the engine or boiler spaces of a steam or motor ship at sea;

(b) the conditions under which service performed in ships other than foreign-going ships is allowed to count are set out in rules 28 to 35.

**18. Determination of horse-power.**—The nominal horse-power of a steamship, as given on the certificate of Registry, may in all cases be accepted by the Examiner; or it may be determined by the following formula:—

$$\text{N.H.P.} = \frac{(3H + D^2 \sqrt{S}) \sqrt[3]{P}}{700}$$

Where H=heating surface of main boilers in square feet, measured down to the level of the fire bars, but excluding the front tube plate.

D<sup>2</sup>=square of diameter of low pressure cylinder, or sum of squares of diameters of cylinders in non-compound engines, measures in inches.

S=length of stroke of engines in inches.

P=pressure of main boilers in pounds per square inch.

The brake horse power of a motor ship, as given on the Certificate of Registry, may in all cases be accepted by the Examiner. It may, however, be noted that 1 NHP = 5.65 BHP.

**19 Remission.**—Candidates who fulfil either or both of the following requirements may be granted a remission of sea service not exceeding three months in respect of each requirement which they fulfil

- (a) Candidates whose workshop service has been principally devoted to work on marine engines (steam or motor) or to other marine engineering work acceptable to the Chief Examiner or who have satisfactorily completed a course of training under rule 10 incorporating such workshop service,
- (b) Candidates who, before commencing their qualifying sea service, have passed Part A of the examination for a Second Class Certificate or who have obtained a certificate, diploma or degree recognised by the Central Government as conferring full or partial exemption from Part A of the examination for a Second Class Certificate of Competency (see rules 61 and 62)

### FIRST CLASS CERTIFICATES AND ENDORSEMENTS

**20 Period of Sea Service for Certificate.**—Candidates for a First Class Certificate of Competency must, except as provided in rule 24, hold a Second Class Certificate, and, whilst holding it, must have completed the same period of sea service as that required in rule 15 for the Second Class Certificate for Steam or Motor, as appropriate.

**21 Period of Sea Service for endorsement.**—Candidates for the endorsement of a First Class Certificate of Competency must have completed the same period of sea service as that required in rule 16 for the endorsement of a Second Class Certificate for Steam or Motor, as the case may be.

**22 Nature of Service.**—Service required under rules 20 and 21 must have been performed in foreign-going steamships of not less than 99 nominal horse-power and/or motor ships of not less than 560 brake horse-power as an engineer at sea on regular watch, i.e. on watch for not less than eight out of each 24 hours' service claimed. This service should have been performed as senior engineer in charge of the entire watch, but service as second in seniority on ships propelled by two or more sets of engines, or in large single-screw ships where there are three or more engineers on regular watch at the same time, will also be accepted at full time value. Service below this rank on such ships will count at half rate.

Day work will not be accepted.

The conditions under which service performed in ships other than foreign-going ships is allowed to count are set out in rules 28 to 35.

**23 Remissions.**—Candidates who fulfil either or both of the following requirements may be granted a remission of sea service not exceeding three months in respect of each requirement which they fulfil

- (a) candidates awarded a remission under rule 19(a)
- (b) candidates who, before commencing their qualifying sea service, have passed Part A of the examination for a First Class Certificate or who have obtained a certificate, diploma or degree recognised by the Central Government as conferring full or partial exemption from Part A of the examination for a First Class Certificate of Competency (see rules 61 and 62)

**24 Grant of Certificate in Special Case.**—The Chief Examiner may, in special circumstances, allow a candidate who, in consequence of service abroad, has had no opportunity to obtain a recognised Second Class Certificate to be examined for a First Class Certificate, provided he is able to produce satisfactory evidence as to the character of his service, and in particular that his apprenticeship or technical studies, including workshop service, would have been acceptable if he were a candidate for the Second Class Certificate in India in the normal way. In general, such a candidate will be required to prove that he has served for at least four years in steamships of at least 99 nominal horse-power and/or motor ships of at least 560 brake horse-power, of which period at least 18 months must have been spent in charge of the entire watch on the boilers and main propelling machinery.



of a steamship or on the main propelling machinery of a motor ship. A candidate must be able to give evidence of sufficient workshop training and, where appropriate, of studies at an appropriate technical institution. In particular he must satisfy the Chief Examiner that he is competent in Drawing and will be required to pass an additional paper equivalent to Section, (iv) of Part A of the Second Class examination in this subject, unless he could be exempted from this paper as provided for in rule 62.

If any such candidate fails to pass the examination for the First Class Certificate but shows that he has reached the standard required for a Second Class Certificate, the Central Government may grant him such a certificate, but no part of the fee will be returned.

#### GENERAL PROVISIONS AS TO ELIGIBILITY

**25. Nature of qualifying service.**—Sea service means service on Articles of Agreement as engineer. When part or whole of the qualifying service has been performed in ships which for considerable periods have not been at sea, a statement or certificate from the owners of the ship must be produced showing the proportion of time actually spent at sea. If this time amounts to not less than two-thirds of the service required to qualify for the examination, the service will be accepted in full, but where the actual service at sea falls below this proportion, the deficiency must be made up by additional service at sea.

**26. Non-Engineer Service.**—Service in ships where a watch-keeping engineer is, as part of his regular duties, required to do stoking or other work not usually performed by an engineer in the Merchant Navy, cannot be accepted as qualifying.

**27. Service on auxiliary machinery.**—Time served on auxiliary machinery run in conjunction with the main propelling machinery (i.e. on auxiliaries which are essential to the running of the main propelling machinery and/or boilers) will subject to the conditions as regards the minimum service on boilers and main engines, be allowed to count in full towards the qualifying period of sea service. Time served on suitable auxiliaries run independently of the main propelling machinery will be allowed to count at half rate.

**28. Home-Trade Ships.**—Service in home-trade ships will be allowed to count at two-thirds rate, provided that the class of service and the horse-power of the ship render the service acceptable in all other respects.

**29. Qualifying Coasting Voyages.**—In the case of Indian home-trade and coasting voyages extending beyond a distance of 500 miles from the port of departure such service will count as foreign-going voyages, and will be reckoned as full time.

**30. Service in ships trading entirely abroad.**—Service in ships trading entirely abroad will be accepted as equivalent to service in foreign-going ships, provided that the distance between the ports visited during the course of the voyage is at least 500 miles. If the distance is less than 500 miles, the service will be accepted as equivalent only to service in the home-trade, i.e. it will be allowed to count at two-thirds rate.

**31. Lake or river Service.**—Service as watch-keeping engineer in lake or river vessels will be accepted under the following conditions for a Steam or Motor Certificate, or a combined Steam and Motor Certificate, and will be counted at half rate (i.e. two months of lake or river service will be regarded as equivalent to one month foreign-going sea service) provided that:

(a) in the case of a candidate for a Second Class Certificate, the service has been performed in lake or river steam vessels of not less than 66 nominal horse-power and/or motor vessels of not less than 373 brake horse-power, and the candidate has had in addition to his lake or river service, at least three months' qualifying service\* at sea in a foreign-going ship or the equivalent service in the home-trade; or

(b) in the case of a candidate for a First Class Certificate, the service has been performed in lake or river steam vessels of not less than 99

\*The conditions under which sea service must be performed in order to count towards the qualifying periods for Second and First Class Certificates are set out in rule 15 et seq.

nominal horse-power and/or motor vessels of not less than 560 brake horse-power, and the candidate has had, in addition to his lake or river service, at least six months' qualifying service\* at sea in a foreign-going ship or the equivalent service in the home-trade.

**32. Service in tugs, dredgers, fishing vessels or pilot vessels.**—Service as engineer in sea-going tugs, dredgers or fishing vessels, and in pilot vessels when on their station or when going to or returning from their station, will be accepted towards the qualifying period of service at half rate.

**33. Further requirements.**—Candidates for Second Class Certificates may perform all their qualifying sea service on regular watch in sea-going tugs, dredgers, fishing vessels or pilot vessels, of not less than 66 nominal horse-power, if steam, or 373 brake horse-power, if motor. Candidates for First Class Certificates must, however, in addition to their service in charge of the watch in sea-going tugs, dredgers, fishing vessels or pilot vessels, of not less than 99 nominal horse-power, if steam, or 560 brake horse-power, if motor have served in a qualifying capacity (see rule 22) for not less than six months in a foreign-going ship or have performed equivalent service in the home-trade.

**34. Service in Yachts.**—Service as watch-keeping engineer at sea performed in yachts of the horse-power referred to in rules 17 and 22 will be accepted at two-thirds rate, provided the service satisfies the requirements set out in those rules and the candidate's name is entered on the ship's Articles of Agreement with his rank shown as engineer.

**35. Further requirements.**—A candidate for a First Class Certificate must, in addition to his service in yachts, have had at least three months' service in a qualifying capacity on board a foreign-going ship or the equivalent service in the home-trade, unless he has served for 27 months as Chief Engineer or for three years as a Second Engineer in a steam yacht of not less than 99 nominal horse-power and/or a motor yacht of not less than 560 brake horse-power.

**36. Testimonials.**—Every candidate must produce testimonials in respect of the qualifying period of his service signed, in each case, by the Chief Engineer under whom his service has been performed, stating his actual rank on watch, the number of engineers simultaneously on watch on the boilers and/or the main propelling machinery and the nature of the duties performed by him. When the candidate is a Chief Engineer, he should produce testimonials signed by the Engineer Superintendent, or by the Managing Owner or Secretary of the Company. It is desirable that the whole of the candidate's sea service should be covered by testimonials certifying to his sobriety, experience, ability and general good conduct.

**37. Endorsements of Testimonials.**—The testimonials signed by Chief Engineers should preferably be endorsed by the Engineer Superintendent or by the Master or other representative of the owner. Testimonials signed only by the Company's Superintendent or other officials will not, as a rule, be regarded as sufficient.

**38. Form of Testimonial.**—A specimen copy of the form of testimonial is set out in Appendix E. Testimonials will be returned to candidates when the examination is completed.

**39. Physical defects.**—When a candidate is somewhat hard of hearing or suffers from any physical defect of such a nature as might interfere with the proper performance of his duties as an engineer on watch, the signatories of his testimonials should state whether such defect did in fact interfere in any way with the efficient discharge of the candidate's duties.

**40. Verification of sea service.**—Service which cannot be verified by proper entries in the Articles of Agreement of the ships in which the candidates have served cannot be counted. In all cases, the candidate's names must have been duly entered on the ship's Articles of Agreement as engineers in the ranks in which they were actually serving.

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\*The conditions under which sea service must be performed in order to count towards the qualifying periods for Second and First Class Certificates are set out in rule 15 *et seq.*

**41. Testimonials to be submitted in time.**—As discharges and testimonials may have to be forwarded to the Shipping Master for verification, they must be handed in, together with the form of application, not less than one week before the date of the examination for which the candidate desires to appear. In the absence of the necessary verification, the candidate cannot be examined.

**42. Confirmation or endorsement of testimonial.**—Where, as in the case of the service of engineers in foreign ships, the length of service cannot be verified by the Shipping Master, the testimonial of service must be confirmed either by the Consul of the country to which the ship in which the candidate served belonged, or by some other recognised official authority of that country, or by some responsible person having personal knowledge of the facts required to be established. Where the testimonial is not confirmed by a Consul or other official authority of the country referred to, it should be endorsed by an Indian Consular Officer.

**43. Calculation of Service.**—The candidate's service, as shown on his discharges, will be reckoned by the calendar month, i.e. the time included between any given day in any month and the preceding day of the following month, both inclusive. The number of complete months from the commencement of the period, ascertained in this way, should be computed, after which the number of odd days should be counted. The day on which the Agreement commences, as well as that on which it terminates, should both be included, and all odd days added together and reckoned as 30 to the month.

**44. Penalty for misconduct.**—Candidates who have neglected to join their ships after having signed Articles of Agreement, or who have deserted their ships after having joined, or who have been found guilty of gross misconduct, will be required to produce satisfactory proofs of two years' subsequent service and good conduct at sea, unless the Chief Examiner, after having investigated the matter, should see fit to reduce the time.

#### EXTRA FIRST CLASS ENGINEER'S CERTIFICATE

**45. Qualifications.**—A candidate for this certificate must possess a First Class combined Steam and Motor Certificate, or a First Class Engineer's Certificate for the one motive power endorsed for the other, or a First Class Certificate of Service, but is not required to have performed any additional sea service.

#### ADMISSION TO EXAMINATIONS AND AWARD OF CERTIFICATES

**46. Application for Examination.**—Candidates who have completed the necessary qualifying service and who desire to take the examination for a First or Second Class Certificate of Competency should fill up a form of application (Exn. 3) and pay the appropriate fee (see rule 52) at the Mercantile Marine Department Bombay or Calcutta, signing the declaration on the form of application in the presence of the Examiner. The form, properly filled in, together with the candidate's certificate of apprenticeship, testimonials, discharges, certificate of competency or service, if any, and the like should be lodged with the Examiner at least one week before the day of examination. A candidate may, however, if he prefers, submit his application and papers by post to the Principal Officer of the Mercantile Marine Department, Bombay or Calcutta, where he desires to be examined; he should remit the fee at the same time. If a candidate adopts this course, he will be required to sign his declaration in the presence of the Examiner at the opening of the examination. Candidates will be informed as soon as possible whether their applications have been accepted or not; if they are accepted, candidates will be supplied with a copy of the instructions to be observed during the examination.

**47. Proof of Nationality.**—Every candidate for a certificate of competency of any grade will be required to produce proof of nationality along with his application.

Proof of nationality will in general involve the production of a birth certificate or of a certificate of naturalisation. Failing this, the applicant shall furnish all possible documentary evidence of nationality or of the birth and nationality of his parents. If the applicant is an alien, he shall produce an official document testifying to his nationality.

**48. Knowledge of English Essential.**—All candidates must prove to the satisfaction of the Examiners that they can speak and write the English language sufficiently well to perform the duties required of them on board ships.

**49. Age.**—Proof of age shall be covered by a birth certificate or other documentary evidence.

**50. Penalty for offering gratuity.**—If a candidate offers a gratuity to any officer of the Central Government, he will not be allowed to take any examination for twelve months.\*

**51. Examination of personnel of Indian Navy.**—Engineer Officers, Officers of the Engineering Specialisation, Artificer Engineers, Chief Engine Room Artificers, Engine Room Artificers, Chief Mechanicians and Mechanicians who have served or are serving in the Indian Navy may be examined for certificates of competency on the same conditions as Engineers in the Merchant Navy. Applications shall be made in accordance with rule 46, except that naval officers shall furnish a statement of service together with testimonials in respect of all sea-going appointments and of the last active appointment. Ratings shall furnish their Naval Service Certificates.

**52. Examination Fee.**—A candidate will be required to pay the following fee on each occasion on which he presents himself for an examination either for a certificate of competency or for the endorsement of a certificate of competency:

<b>(A) SECOND CLASS ENGINEER (Steam or Motor or combined Steam and Motor)</b>	
	<b>Rs.</b>
(i) For the full examination . . . . .	40.00
(ii) For Part A or Part B or a portion of either Part . . . . .	20.00
(iii) For endorsement of a Second Class Engineer's Certificate . . . . .	20.00
<b>(B) FIRST CLASS ENGINEER :</b>	
(i) For the full examination . . . . .	80.00
(ii) For Part A or Part B or a portion of either Part . . . . .	40.00
(iii) For endorsement of a First Class Engineer's certificate . . . . .	40.00
<b>(C) EXTRA FIRST CLASS ENGINEER.†</b>	
(i) For the full examination . . . . .	80.00
If possessing only a First Class Certificate of Service . . . . .	160.00
(ii) For Part A or Part B when taken separately . . . . .	40.00
If possessing only a First Class Certificate of Service . . . . .	80.00
<b>(D) For assessment of workshop/sea service not followed by examination</b>	<b>15.00</b>

**NOTE :—**“Endorsement” means the endorsement of an ordinary (steam) certificate to the effect that the holder is qualified to act as first or second class engineer, as the case may be, on board a motor vessel, or vice versa.

No part of the fee will be returned to a candidate who takes the examination or any part of it, or is credited with full exemption or any part of it, or is credited with full exemption from Part A.

**53. Enquiry Fee.**—A person enquiring as to his eligibility for examination will be required to pay the prescribed fee before any step is taken to enquire into his service or to test his qualifications, etc.

**54. Issue of Certificates.**—When the candidate has successfully completed all parts of his examination, he will receive a form authorising the Principal Officer of the Mercantile Marine Department to whom it is addressed to issue the certificate. Certificates of competency, or certificates of service, or certificates of competency granted by other governments but declared to have the same force

\*This penalty is additional to any penalty to which the candidate may be liable under the criminal law.

†At present the examinations are being held in India under arrangement with the Ministry of Transport, United Kingdom, and the candidates have, therefore, to pay an additional fee as Prescribed for such examination by the Government of United Kingdom.

as those granted under the Act, of a lower grade, will not be returned to successful candidates. Other candidates will receive a record of their examination results on form Exn 45. This form must be produced to the Examiner when a candidate next presents himself for examination.

**55 Service found to be insufficient.**—If, after a candidate has passed the examination, it is discovered on further investigation that his services are insufficient to entitle him to receive a certificate, the certificate will not be granted until the candidate has performed the amount of service on which he was deficient, and has been re-examined, unless the Central Government sees fit to dispense with the re-examination.

**56 Copy of lost certificate.**—An applicant for a certified copy of a lost certificate of competency should fill in a form of application (Exn 23) giving the necessary particulars, and delivering it to the Principal Officer of the Mercantile Marine Department who issued the certificate, paying at the same time the appropriate fee (Rs 10 for an Extra First Class or First Class Certificate and Rs 5 for a Second Class Certificate). A declaration as to the circumstances in which the certificate was lost must be made by the applicant before the Principal Officer. A fee of Re 1 only is chargeable if the applicant can prove that the certificate was lost through shipwreck or fire.

**57 Re-examination.**—Ordinarily, a candidate may present himself for re-examination at any time after one month has elapsed since his previous attempt, but if he fails three times in Part A or three times in Part B within any period of three months, he will be debarred from re-examination for a period, depending on the circumstances, of up to three months or in exceptional cases, up to six months.

**58 Penalties for failure in examinations.**—It is evident that ignorance of those subjects which form a vital part of a marine engineer's daily work (e.g. questions on manipulation and reading of the water gauge, the danger of fire and explosion in steam and motor vessels, etc.) can easily cause acts or omissions which would seriously endanger a ship. In particular, candidates should be very familiar with the water-gauge (See Appendix H). A failure in one of these subjects, either in the Engineering Knowledge paper or the oral test in Part B of the examination, will be regarded as failure in practical knowledge, and any candidate so failing will not be allowed to present himself for re-examination until he can produce proofs of further service at sea in a qualifying capacity. The period of the further service which will be required will be assessed in each individual case by the Chief Examiner but will not exceed six months.

**59 Should a candidate fail through ignorance of fundamental principles or on account of general defectiveness in the examination** he shall not be allowed to present himself for re-examination until a period of time to be fixed by the Chief Examiner has elapsed. Such period will not usually exceed three months, but in the case of a subsequent failure on account of general defectiveness the penalty may, in exceptional circumstances, be increased to a maximum of six months.

## EXAMINATIONS AND EXEMPTIONS

**60 Place and day of examination.**—The examination centres are located at the ports of Bombay and Calcutta. The examinations at both these ports will ordinarily commence on the third Monday in each month for both Second Class and First Class Certificates. The information regarding actual dates of the examination may be obtained from the Principal Officer, Mercantile Marine Department, Bombay/Calcutta.

The time-table of the different examinations are given in Appendix—'B'.

The examination for Extra First Class Certificates will commence on the Tuesday following the third Monday in January and July of each year.

**61 Exemptions.**—The examinations for Certificates of Competency (First Class and Second Class) are divided into two parts as indicated in rules 63 and 65 and candidates who have attended approved courses of instruction during their apprenticeship and have obtained certificates showing that they have passed the appropriate examination at the termination of the course will be granted exemption from the whole or part of Part A as shown in rules 64 and 66.

**62. Approved courses.**—(1) The Central Government has approved certain courses of instruction leading to:—

- (a) B.M.E. Degree of the College of Engineering and Technology, Bengal.
- (b) B.E. Degree (Mech.) and B.E. Degree (Elec.) of the Bengal Engineering College, Sibpore, (Howrah).
- (c) B.Sc. Degree in Mechanical Engineering and B.Sc. Degree in Electrical Engineering of the College of Engineering, Hindu University, Banaras. (See Appendices "F" and "G").

(2) The Central Government will also recognise other University Degrees and University Diplomas in Engineering awarded in India or within the Commonwealth countries, provided evidence is produced by the candidate to the satisfaction of the Central Government as to the suitability of the course undertaken. Candidates will also be allowed either complete or partial exemption from Part A of the examination for the First and Second Class Certificates of Competency, if they satisfy the Central Government that they have obtained suitable degrees or similar qualifications in appropriate subjects at a University or place of higher education within the Commonwealth.

(3) The Central Government has approved certain courses of instruction, recognised by the Ministry of Transport, United Kingdom, as leading to the Higher National Diploma and Higher National Certificate in Mechanical Engineering in the United Kingdom, for the purposes of examinations for both the First and Second Class Certificates of Competency. Also certain courses of instruction recognised by the Ministry of Transport, United Kingdom, as leading to Ordinary National Diploma and Ordinary National Certificate in Mechanical Engineering in the United Kingdom, have been approved by the Central Government for the purpose of examination for the Second Class Certificate of Competency only, provided that the syllabus accords with and is comparable to the syllabus laid down by the Central Government for the Second Class Examination. This has special reference to the syllabus for Heat and Heat Engines. No exemption will be granted in respect of Paper IV of Part 'A' of the Second Class Examination (Drawing) except to the holder of:—

- (i) A Higher National Diploma; or
- (ii) A Higher National Certificate who also holds an Ordinary National Certificate with Drawing at the S.2 level; or
- (iii) An Ordinary National Certificate with Drawing at the S.3 level; or
- (iv) An Ordinary National Diploma granted under Alternative Schemes of Training of Engineer Officers which is approved by the Ministry of Transport, United Kingdom.

(4) The Central Government has also approved certain courses of instruction leading to the Associateship in Mechanical Engineering of the Royal College of Science and Technology, Glasgow, and the special Technological Certificate of the Republic of Ireland, Department of Education.

(5) Candidates for either the Second or First Class Certificate of Competency who have satisfactorily completed the Alternative Scheme for the training of Marine Engineers in the United Kingdom, approved by the Ministry of Transport, United Kingdom, as mentioned in rule 10 and have, after the completion of sea service required in the second phase of that Scheme, to the satisfaction of the Ministry of Transport, United Kingdom, attended part time instruction during their workshop service and obtained the group endorsement in Naval Architecture, Electrotechnology and Power Plant Operation and Management will be exempted from Section 1 of Part 'B' of the Examination.

**63. Examination for Second Class Certificate.**—The Syllabuses for the Second Class Engineer's examination are given in Appendix 'C'. The examination is divided into two parts consisting of six Sections as follows:—

#### PART 'A'

- Section (i) Applied Mechanics (one paper of three hours)
- Section (ii) Heat and Heat Engines (one paper of three hours)
- Section (iii) Mathematics (one paper of three hours)
- Section (iv) Drawing (one paper of six hours)

#### PART 'B'

- Section (i) (a) Electrotechnology (one paper of three hours)  
(b) Elementary Naval Architecture (one paper of three hours)
- Section (ii) (a) Engineering Knowledge (Two papers each of three hours)\*  
(b) Oral.

**64. Exemption.**—Candidates may be exempted from Part 'A' or some portion of it and may take the examination in separate parts as follows:—

- (a) (i) A candidate who has attended an approved course of instruction (see rules 61 and 62 covering not less than two of four subjects included in Part 'A', and has obtained a certificate stating that he has passed the appropriate examination at the termination of the course, will be granted exemption from the subjects in Part 'A' covered by the Certificate.
- (ii) A candidate who has passed with mathematics the Intermediate Examination or First Year B.Sc Degree Examination of an Indian University or a similarly approved course to the satisfaction of the Chief Examiner will be granted exemption from Section (iii) of Part 'A' of the examination for Second Class Certificate of Competency.
- (b) A candidate may present himself either for the whole of Part 'A' of the examination, or, if exempted under (a) above from certain subject(s) of the examination, for the remaining subject or subjects, at any time after he has completed the necessary workshop service.
- (c) A candidate who has not been exempted under a (i) above from Part 'A' or a section of it, or has been exempted under a (ii) above only, and who, when taking Part 'A' of the examination passes in at least two subjects, will not be required to take those subjects again and may present himself for re-examination in the remaining subject(s) at any time. If he passes in one subject only, he must sit for the whole Part on re-examination.
- (d) A candidate may take Part 'B' or that section of it from which he is not exempted at any time after he has completed the necessary periods of qualifying workshop and sea service, provided he also takes at the same time the whole of Part 'A' of the examination or such subjects, if any, in that part, in which he has not already passed or from which he has not been exempted under (a) above.
- (e) A candidate will not be given a 'Pass' in Part 'B' or in either Section of Part 'B' unless he completes Part 'A' at the same time as Part 'B' or has previously completed it or has been exempted from it.
- (f) A candidate who when taking Part 'B' passes in Section (i), (Electrotechnology and Elementary Naval Architecture), but fails in Section (ii) (Engineering Knowledge and Oral), will be given a pass in Section (i) and may sit for re-examination in Section (ii).
- (g) A candidate who when taking Part B passes in Section (ii), but fails in Section (i), will be given a pass in Section (ii) and may sit for re-examination in Section (i).

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\*In the examination for combined Steam and Motor Certificate a third three-hour paper in Engineering Knowledge is set.

**65. Examination for First Class Certificate.**—The syllabuses for the First Class Engineer's examination are given in Appendix 'C'. The examination is divided into two Parts consisting of four Sections as follows:—

**PART 'A'**

Section (i) Applied Mechanics (one paper of three hours)

Section (ii) Heat and Heat Engines (one paper of three hours)

**PART 'B'**

Section (i) (a) Electro-technology (one paper of three hours)

(b) Elementary Naval Architecture (one paper of three hours)

Section (ii) (a) Engineering Knowledge (two papers each of three hours\*)

(b) Oral.

**66. Exemption.**—Candidates may be exempted from Part 'A' or a section of it and may take the examination in separate parts as follows:—

- (a) A candidate who holds a certificate, degree or diploma approved by the Central Government as stated in rule 62 for the purposes of the First Class Certificate of Competency and who has been exempted from the Second Class examination in Applied Mechanics or Heat and Heat Engines, or both, will also be exempted from this examination in either or both these subjects.
- (b) A candidate possessing a Second Class Certificate is allowed to take either the whole of Part 'A' or, if exempted under (a) above from one subject, the remaining subject.
- (c) A candidate who has not been exempted under (a) above from Part 'A' or a section of it and who, when taking Part 'A', passes in one subject only, will not be required to take that subject again and may sit for the remaining subject.
- (d) A candidate may take Part 'B' or that section of it from which he has not already been exempted at any time provided he holds a Second Class Certificate and has completed the necessary period of qualifying sea service, and provided also that he takes at the same time either the whole of Part 'A' of the examination or such subject, if any, in that Part, in which he has not already passed or from which he has not been exempted under (a) above.
- (e) A candidate will not be given a pass in Part 'B' or in either Section of Part 'B' unless he completes Part 'A' at the same time as Part 'B' or has previously completed it or has been exempted from it.
- (f) A candidate who when taking Part 'B' passes in Section (i) (Electro-technology and Elementary Naval Architecture), but fails in Section (ii) (Engineering Knowledge and Oral), will be given a pass in Section (i) and may sit for re-examination in Section (ii).
- (g) A candidate who when taking Part 'B' passes in Section (ii), but fails in Section (i), will be given a pass in Section (ii) and may sit for re-examination in Section (i).

**67. Examination for endorsement of Second and First Class Certificates.**—The examination consists of:—

(a) One written paper of three hours in Engineering Knowledge,

(b) Oral.

The syllabuses for these examination are given in the sections of Appendix 'C' relating to these subjects.

\*In the examination for a combined Steam and Motor Certificate, a third three-hour paper in Engineering Knowledge is set.



**68. Marks required for pass.**—Candidates will be expected to obtain a minimum number of marks in each subject in the written examinations and not less than one-half of the total number of marks to secure a pass. In the oral examination a somewhat higher standard will be required. The result of the examination will be communicated to the candidate by the Examiner.

**69. Examination for Extra First Class Certificate.**—The examination for Extra First Class Certificate covers the syllabuses for the First Class and Second Class examinations, and also that given in Appendix 'D'. It is divided into two separate parts, 'A' and 'B'. No exemption from any of the subjects covered by the examination is granted.

Candidates will be permitted either to take the whole of the examination at one time, or to take the two parts at separate examinations, in which case a candidate must first pass in Part 'A' to qualify for entrance to Part 'B'. On the other hand, a candidate who chooses to take the whole examination at one time and passes only in Part 'B' will be eligible to sit for Part 'A' at any future examination and will be exempt from further examination in Part 'B'.

Candidates must obtain a minimum number of marks in each paper, and not less than 60 per cent. of the total marks throughout the examination, either for the full certificate or for Part 'A' or 'B' if taken separately. No certificate will be issued until the candidate has passed both parts of the examination.

**70. Punishment for misconduct.**—Where in the opinion of the Director General of Shipping, a candidate has been guilty of any misconduct in relation to an examination (including insolence to any Examiner or disorderly or improper conduct in or about the room where the examination is held) or a breach of any of these rules, the candidate may be punished in one or more of the following ways:—

- (a) Where the examination has not commenced or is not completed, the candidate may not be permitted to appear in the examination or, as the case may be, to take further part therein;
- (b) where the result of the examination has been declared, the result of the candidate may be amended;
- (c) where the candidate has been declared successful in the examination but has not been granted the necessary certificate, the certificate may be withheld, for such period as the Director General of Shipping may direct;
- (d) the candidate may be debarred from appearing in any examination under these rules for such period as the Director General of Shipping may direct.

**71. Penalty for Copying.**—In the event of any candidate being discovered referring to any unauthorised book or paper or copying from another candidate or affording any assistance or giving any information to another candidate or communicating in any way with anyone during the time of examination or copying any part of the problems for the purpose of taking them out of the examination room, he will be regarded as having failed and will not be allowed to present himself for re-examination for a period of six months.

A candidate guilty of a second offence of this nature will not be allowed to present himself for re-examination until twelve months have elapsed since the date of the second offence.

## APPENDIX A

[See rule 2(b)]

## EXAMINERS

Persons	Grades of Certificates of Competency.
1. Engineer and Ship Surveyors in the Mercantile Marine Departments including those promoted as Principal Officers.	First Class Engineer, Steam, Motor and Combined. Second Class Engineer, Steam, Motor and Combined.
2. Engineer & Ship Surveyors attached to the Directorate General of Shipping, Bombay.	
3. Deputy Chief Surveyor with the Govt. of India.	
4. Chief Surveyor with the Govt. of India who shall also be the Chief Examiner.	

## APPENDIX B

[See rule 60]

## TIME TABLE OF EXAMINATIONS

## SECOND CLASS

Day	Part of Examination	Morning Session	Afternoon Session.
Monday	B	Engineering—Knowledge One Paper—3 hours Note : Candidates for Endorsement do not take this paper.	Engineering Knowledge. One Paper—3 hours. Note : Separate papers are set for Steam and Motor candidates.
Tuesday	B	Electrotechnology One Paper—3 hours	Elementary Naval Architecture One Paper—3 hours.
Wednesday	A	Applied Mechanics One paper—3 hours	Heat and Heat Engines One Paper—3 hours.
Thursday	A and B	A Mathematics One Paper—3 hours.	B Engineering Knowledge. One Paper—3 hours. Note : to be taken by candidates for combined Steam and Motor certificates only.
Friday	A		Engineering Drawing One Paper—6 hours. Note : An interval of half an hour may be allowed.

NOTE : The oral examination will be taken on completion of the written papers at a time fixed by the Examiner.

## FIRST CLASS

Day	Part of Examination	Morning Session	Afternoon Session
Monday	B	Engineering Knowledge One Paper—3 hours Note : Candidate for Endorsement do not take this paper.	Engineering Knowledge One Paper—3 hours Note : Separate papers are set for Steam and Motor candidates.
Tuesday	B	Electrotechnology One Paper—3 hours	Elementary Naval Architecture One Paper—3 hours
Wednesday	A	Applied Mechanics One Paper—3 hours	Heat and Heat Engines One Paper—3 hours.
Thursday	B	Engineering Knowledge One Paper—3 hours Note : To be taken by candidates for combined Steam and Motor Certificates only.	
Friday			

NOTE : The oral examination will be taken on completion of the written papers at a time fixed by the Examiner.

## EXTRA FIRST CLASS

*First Week*

Day	Part of Examination	Morning Session	Afternoon Session
Tuesday	A	Theory of Machines (Mechanics of Fluids) One Paper—3 hours	
	A		Strength and Properties of Materials One Paper—3 hours.
Wednesday	A	Applied Thermodynamics One Paper—3 hours.	
Thursday	A		Marine Heat Engines One Paper—3 hours.

*Second Week*

Monday	B	Engineering Knowledge One Paper—3 hours.	
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Day	Part of Examination	Morning Session	Afternoon Session
Tuesday	B	Essay One Paper—3 hours	
Wednesday	B	Electrotechnology One Paper—3 hours	Naval Architecture One Paper—3 hours
Thursday	B		Machine Design (Drawing) One Paper—5 hours Note : An interval of half an hour may be allowed.

## APPENDIX C

(See Rules 63, 65 &amp; 67)

SYLLABUSES FOR THE FIRST AND SECOND CLASS EXAMINATIONS  
FUNDAMENTAL KNOWLEDGE SUBJECTS—PART A

NOTES.—(1) The problems will require a knowledge of the M.K.S. (Metric-Kilogramme-Second), F.P.S. (Foot-Pound-Second) and C.G.S. (Centigrade-Gramme-Second) systems, and will be such as can be solved by the knowledge of elementary algebra, geometry and plane trigonometry.

(2) A knowledge of the use of logarithms will be required.

(3) Formulae involving higher mathematics or constants required for the solution of any problem will be given.

(4) Graphical solutions will be accepted where the analytical solution is not expressly stated to be required.

(5) Candidates may, if they wish, use slide rules for their calculations, but in each case a full statement of the steps leading to the calculations must be shown.

## SECOND CLASS MATHEMATICS

(One paper of three hours. Six questions only out of nine to be attempted.)

*Arithmetic.*—Conversion of physical quantities involving length, area, volume or force from one system of units to another. Ratio and proportion. Percentages.

*Algebra.*—Indices, including fractional and negative types. Use of common logarithms for multiplication, division, powers and roots. Use of Napierian logarithms. Simplification of algebraic expression. Addition, subtraction, Multiplication and division of algebraic functions. Re-arrangement of formulae. Factorisation, Algebraic Fractions. Squares and cubes of polynomials such as  $(a \pm b)^2$  and  $(a \pm b)^3$ . Simple equations. Quadratic equations and solution by factorisation or by completing the square. Proof of general formula for solution. Simultaneous equations, either two linear equations or one linear and one quadratic. Variation, direct and inverse.

*Graphical work.*—Simple graphs of statistics. The graph  $y = ax + b$  either from calculated values or from experimental results. Calculation of constants from graph. Graphical solution of simple simultaneous equations involving two unknowns. Graph of  $y = ax^2 + bx + c$  and graphical solution of equation  $ax^2 + bx + c = 0$ .

*Trigonometry.*—Measurement of angles in degrees and radians. Complementary and supplementary angles. Sine, cosine and tangent of angles up to  $360^\circ$ . Solution of right-angled triangles. Proof of sine and cosine rules. Solution of triangles by these rules. Solution of simple trigonometric equations. Expansion of  $\sin(A \pm B)$  and  $\cos(A \mp B)$ .

**Geometry.**—Properties of triangles. Sum of the angles. Relation between exterior and interior angles. Isosceles and equilateral triangles. Similar and congruent triangles.

**The circle.**—Properties of chords and tangents. Angles in the same segment. Angles at centre and circumference.

**Mensuration.**—Areas of triangle, polygon, parallelogram, trapezium, circle, sector and segment of a circle and ellipse. Arcs of oblique sections of regular solids of uniform cross section. Area and mean height by mid-ordinate rule and by Simpson's first rule. Ratio of areas of similar figures. Volumes and surface areas of prisms, pyramids, frustums, spheres, cylinders and cones. Ratio of volumes of similar solids. Solids of revolution.

## SECOND CLASS APPLIED MECHANICS

(One paper of three hours. Six questions only out of nine to be attempted.)

**General.**—Applications of areas and volumes to problems such as the weight of engine components. Specific gravity. Simpson's first rule as applied to areas and volumes.

**Statics.**—Force. Gravitational units. Force as a vector. Triangle and polygon of forces. Resultant and equilibrant of a system of concurrent coplanar forces. Equilibrium of three coplanar forces. Moment of a force. Couples. Moment of areas and volumes. Centroids and centres of gravity (limited to geometrical shapes). Conditions of equilibrium of solids. Inclined plane. Necessary force applied parallel to the plane to pull body up or down the plane or to hold it stationary (including effect of friction). Work done at uniform speed up the plane.

**Friction.**—Laws of friction for dry surfaces. Coefficient of friction. Friction angle. Energy and power lost due to friction in simple bearings.

**Kinematics.**—Linear motion. Graphs and equations for displacement, speed, velocity and uniform acceleration. Simple cases of vector change of velocity and the acceleration produced. Relative velocities in one plane only. Angular motion. Equations for displacement, velocity and uniform acceleration.

**Dynamics.**—Work and power. Horse-power. Problems with constant force or force with linear variation. Energy. Conservation of energy. Potential energy. Kinetic energy of translation. Newton's laws of motion. Momentum and rate of change of momentum. Centrifugal force and its application to conical pendulum, unloaded governor, curved tracks and machine parts. Stress in thin rim due to centrifugal action.

**Machines.**—Simple lifting machine. Graphs of load-effort and load-efficiency. Linear law. Velocity ratio, mechanical advantage and efficiency of the following machines:—wheel and axle, differential wheel and axle, rope pulley blocks, differential pulley blocks, screw jack, Warwick screw, hydraulic jack, worm-driven chain blocks and single and double purchase crab winches. Reduction gearing.

**Stress and strain.**—Direct stress and strain. Shear stress. Hooke's law. Modulus of elasticity. Ultimate tensile stress. Yields stress. Limit of proportionality. Percentage elongation and reduction of area. Working stress. Factor of safety. Stress due to restricted expansion or contraction of single members.

**Beams.**—Cantilevers and simply supported beams with concentrated or uniformly distributed loads. Shearing force and bending moment diagrams. Stress due to bending, given the fundamental bending equation and the second moment of area of the section.

**Torsion.**—Twisting moment due to engine crank mechanism strength and stiffness of solid or hollow shafts of circular cross-section given the fundamental torsion equation and the polar second moment of area. Power transmitted by shafts. Coupling bolts.

**Thin shells.**—Circumferential and longitudinal stress in thin cylindrical and spherical shells subject to internal pressure.

**Joints.**—Strength of the following joints:—single, double and treble riveted lap and butt joints and butt welded joints.

*Hydrostatics.*—Archimedes' principle. Equilibrium of floating bodies. Specific gravity. Constant weight hydrometer. Variation of fluid pressure with depth. Total force due to liquid pressure on immersed plane surfaces, horizontal or vertical. Centre of pressure on a rectangular vertical plane surface or triangular plane surface, both with one edge parallel to the surface of the liquid.

*Hydraulics.*—Full bore flow of liquid through pipes under constant head. Flow through orifice. Coefficients of velocity, contraction of area and discharge.

#### FIRST CLASS APPLIED MECHANICS

(One paper of three hours. Six questions only out of nine to be attempted.)

*Statics.*—Laws of equilibrium. Moments and couples. Polygon of forces. Rapson's slide.

*Friction.*—Law of dry friction. Friction angle. Friction clutches. Friction on inclined plane. Friction on threads. Work done against friction.

*Kinematics.*—Linear and angular motion with constant acceleration. Gravitational acceleration. Velocity-time graphs.

*Relative velocity and acceleration.*—Effect of a current on the velocity and course of a ship. Relative velocity between bodies moving in different planes.

*Dynamics.*—Newton's law of motion. The force equation. Atwood machine. Acceleration of connected bodies. Effect of simple air resistance on motion under the effect of gravity. The torque equation. Conservation of momentum. Kinetic energy of translation and of rotation. Flywheels. Potential energy. Conservation of energy. Impulsive forces. Centrifugal force. Porter governor with sleeve friction. Simple harmonic motion. Simple pendulum. Simple vibrations. Dynamic balancing of masses rotating in one plane. Basic dynamics of the engine mechanism. Use of piston velocity and acceleration formulae. Derivation of piston displacement formula.

*Machines.*—Velocity ratio. Mechanical advantage. Efficiency.

*Stress and strain.*—Direct stress and strain and modulus of elasticity. Shear stress and strain and modulus of rigidity. Stresses on oblique planes. Strength of simple connections such as cottered or screwed joints. Resilience due to direct stress. Suddenly applied loads.

*Compound bars.*—Effects of direct loading and of temperature changes.

*Beams.*—S. F. and B. M. diagrams for cantilevers and simply supported beams. Stresses in beams of simple section. Use of simple deflection formulae.

*Torsion.*—Torsion equations for solid and hollow round shafts. Torsion of shaft fitted with liner. Horsepower transmitted. Close coiled helical spring.

*Struts.*—Eccentric loading of short columns. Use of strut formulae.

*Thin Shells.*—Stresses in thin shells. Design of riveted joints. Use of boiler shell design formulae.

*Hydrostatics.*—Flotation in two liquids of different specific gravities. Total force and centre of pressure on immersed surfaces such as tanks and bulkheads.

*Hydraulics.*—Bernoulli's equation applied to simple flow problems. Venturi meter. Flow through orifices under constant head. Force exerted by a jet on a flat surface perpendicular to the jet. Blade angle diagrams for a centrifugal pump.

#### SECOND CLASS HEAT AND HEAT ENGINES

(One paper of three hours. Six questions only out of nine to be attempted.)

*Elements.*—Temperature and thermometric scales. Conversion from Centigrade to Fahrenheit and *vice versa*. Linear and volumetric expansion due to temperature changes. Coefficients and the relationship between them.

*Heat and heat transfer.*—Heat units: B. Th. U., C.H.U., gram calorie. Specific heat. Mechanical equivalent of heat. Heat equivalent of horse-power. Heat transfer by conduction, convection and radiation. Laws of conduction and radiation and simple applications with given formulae.

*Mixtures.*—Heat and temperature problems involving not more than three substances. Water equivalent.

*Gases.*—Boyle's and Charles' laws for perfect gases. Absolute temperature. Characteristic equation. Constant R and its use in simple problems. Isothermal and adiabatic expansion and compression. Relation between P, V and T when  $PV^n = \text{constant}$ . Specific heats  $C_p$  and  $C_v$  and the relationship between them.

*I.C. engines and air compressors.*—Elementary principles and cycles of operation. Calculation of work done from given formulae. Cam diagrams for I.C. engines, angles of cam peak centre lines relative to crank.

*Properties of steam.*—Change of state. Sensible heat. Latent heat. Wet, dry-saturated and superheated steam and the quantities of heat involved. Use of abridged steam tables. Specific volume of steam under various conditions. Throttling. Separating and throttling calorimeters. Boiler efficiency. Equivalent Evaporation. Use of steam tables in simple problems referring to condensers. Effect of air leakage.

*Reciprocating steam engine.*—Hypothetical and actual indicator diagrams. Diagram factor. Mean effective pressure and work done (assuming  $PV = C$ ). Indicated and brake horse-power. Advantages of using steam expansively and of compounding engines. Mean referred pressure. Steam consumption per hour and per horse-power-hour. Thermal, mechanical and overall efficiencies of simple and compounded engines. Heat balance for engine and boiler trials.

Simple slide and piston valves with outside or inside steam admission. Use of valve diagrams to determine angle advance, lap, lead and port opening for a given valve travel.

*Steam turbine.*—Elementary principles. Simple velocity diagrams. Thermal, mechanical and overall efficiency.

*Combustion.*—Solid and liquid fuels. Higher and lower calorific values. Chemical equations for complete combustion. Theoretical minimum air required. Excess air.

*Refrigeration.*—Vapour-compression cycle. Refrigerating effect. Capacity of a machine expressed as "tons of ice per 24 hours from and at 32° F."

*Boilers and evaporators.*—Change of density due to contaminated feed.

### FIRST CLASS HEAT AND HEAT ENGINES

(One paper of three hours. Six questions only out of nine to be attempted.)

*Elements.*—Expansion of solids and liquids including coefficient of apparent cubical expansion. First law of thermodynamics and its application to steady flow conditions. Formulae for work done associated with the formula  $PV^n = C$ .

*Heat transfer.*—Conduction (excluding log mean temperature difference). Radiation.

*Properties of steam.*—Sensible heat; latent heat; enthalpy; internal energy; volume. Use of steam tables and entropy. Throttling and separating calorimeter.

*Mixtures.*—Heat and temperature problems involving two or more substances.

*Gases.*—Boyle's law. Charles' law. Characteristic equation. Relations between P, V and T when  $PV^n = C$ . Determination of n from graph connecting P and V. Proof of the formula  $C_p - C_v = \frac{R}{J}$ . Calculations for expansions and compressions on air compressors, internal combustion engines, air pumps and air storage. Simple applications of Dalton's law of partial pressures.

*Gas cycles.*—Use of entropy charts. Constant volume cycle. Diesel cycle. Open and closed cycles for gas turbines. Indicated and brake thermal efficiencies. Mechanical efficiency. Overall efficiency. Morse test.

*Expansion of steam.*—Throttling. Hypothetical PV diagrams. Work done, m.e.p., diagram factor, including effect of clearance. Compounding. Mean referred pressure. Total power. Combined diagrams. Reuleaux valve diagram.

**Steam cycle.**—Use of entropy charts. Basic Rankine cycle. Heat drop in reciprocating engines and in turbines. Effect on thermal efficiency of such modifications as superheating, exhaust turbine and regenerative feed heating. Equivalent evaporation. Efficiencies.

**Density and scale.**—Basic calculations on the effect of condenser leakage and impure feed on the density and scale in boilers. Basic calculations on evaporator performance.

**Turbines.**—Basic cycle and its modifications. Flow through nozzles (excluding proof of critical pressure ratio). Blade diagrams for impulse and reaction turbines. Force on blades. Work done on blades. Use of total heat charts to determine steam condition at various stages.

**Combustion.**—Combustion equations. Calculation of theoretical air required. Determination of calorific value. Avogadro's hypothesis. Basic analysis of exhaust gases. Relation between volumetric and weight analysis of a gas mixture. CO content of exhaust gases.

**Refrigeration.**—Reversed Carnot cycle. Vapour compression cycle. Use of vapour tables. Coefficient of performance.

### DRAWING

(This subject is to be taken by candidates for Second Class Certificates only and in special cases for First Class Certificates as provided for in rule 24.)

(One paper of six hours. A choice of two drawings will be given.)

The drawing paper will consist of a test of the ability to apply the principles of projection and candidates will be asked to draw a plan, elevation or section or a combination of these views of a piece of marine machinery from information supplied. All the required information for the completion of the drawing will be given in the question paper.

### PRACTICAL KNOWLEDGE SUBJECTS—PART B

N.B. The notes under "Fundamental Knowledge Subject",

Part A, apply equally to Part B.

#### SECOND CLASS ELECTROTECHNOLOGY.

(One paper of three hours. Six questions only out of nine to be attempted.)

**General.**—Effects of electric current—chemical, magnetic thermal and production of light. Production of e.m.f. by chemical, magnetic, thermal and light means.

**The Electric Circuit.**—Units—ampere, ohm and volt. Ohm's law. Series and parallel circuits of sources of e.m.f. and of resistances. Current distribution in simple circuits. Difference between e.m.f. and p.d. Power and energy. Relationships between heating, mechanical and electrical units. Joule's equivalent. Conductor resistance, effect of length, area, material and temperature. Specific resistance. Temperature coefficient of resistance. Types of insulation. Wheatstone network bridge, slide wire bridge. Applications to steering gears, resistance pyrometers, strain gauges, etc.

**Electrolytic Action.**—Theory of electrolytic dissociation applied to common solutions, etc., acidulated water, copper sulphate and salt water. Uses of electrolysis. Faraday's laws. Electro-chemical equivalent.

**Cells.**—Primary (wet or dry Leclanche) and secondary (acid or alkaline) types. Construction and principles. Maintenance, charging. Watt-hour and ampere-hour efficiencies.

**Magnetism and Electromagnetism.**—Simple magnetic theory Magnetic field. Lines of force. Field strength. Field intensity. Magnetic fields due to current in straight conductors, loops, coils and solenoids. Relative directions of current and field. Effect of Iron. Flux density. Total flux. Permeability. Typical B/H and U/B curves.

**Electro-magnetic induction.**—Faraday's and lenz's laws. Magnitude and direction of induced e.m.f. Force produced on a current carrying conductor.



**Alternating Current Theory.**—The sinusoidal wave, frequency, maximum r.m.s. and average values. Vector representation of a.c. quantities. Phase difference. The a.c. circuit. The inductor. Inductance and its effect on the circuit. The capacitor. Capacitance and its effect on the circuit. The general series circuit. Relationship between resistance, reactance and impedance. Simple treatment of power factor.

**Instruments.**—Principles and function of switchboard indicating instruments. Moving-coil, moving-iron and dynamometer types. Uses of shunts and series resistances to increase the range. The current transformer and potential transformer for instrument work (description and simple explanation).

**Testing Methods and Measurements.**—Resistance measured by ammeter-voltmeter, by bridge and by instrument. Simple ohmmeter and insulation testing. General insulation, continuity and millivolt-drop testing. Fault tracing. Temperature measurement by resistance.

**Circuits.**—Single-wire, 2-wire, 3-wire and ring main systems for d.c. Use of fuses and circuit-breakers. Use of earth lamps. Simple reference to the balancer. Simple explanation of the alternator as a generating unit. Parallel running and synchronising procedure.

**Electrical Machines.**—Constructional details of the d.c. generator and motor. Action of commutator. Simple approach to lap and wave windings. Methods of supplying the field—separate excitation, shunt, series and compound windings.

**D.C. Generators.**—Constructional details. Protection. e.m.f. and load voltage equation. Brief treatment of theory of self-excitation. Load characteristics. Methods of voltage control. Parallel operation procedure.

**D. C. Motors.**—Constructional details. Need for starters. Types of starter. Speed and torque equations. Load Characteristics. Speed control.

**Electric Ignition For I.C. Engines.**—Coil and magneto systems. Starting arrangements. Maintenance requirements.

#### FIRST CLASS ELECTROTECHNOLOGY

(One paper of three hours. Six Questions only out of nine to be attempted.)

**Units.**—C.G.S. system. M.K.S. system and F.P.S. system.

**The Magnetic Circuit.**—B-H and B-AT/cm curves. Their effect on the design of simple magnetic circuits involving an air gap. Hysteresis, Electromagnetism. Mutual induction.

**The Electric Circuit.**—Kirchhoff's laws. Parallel operation of batteries with unequal e.m.f.s. and differing internal resistances. Distribution problems. Volt-drop. Single and doubly fed distributors. Ring mains.

**Distribution systems.**—D.c. 2-wire and 3-wire. A.c. single-phase and three-phase 3-wire and 4-wire. Comparison of copper required. Balancer in 3-wire d.c. system.

**Motor Starters.**—Automatic types—reference to time and current control. The drum controller for series motors.

**Applications etc.**—Parallel operation of shunt and compound generators. Equalising bar. Load sharing treated qualitatively. Applications to Ward Leonard systems. Steering gear. Suitability of d.c. motors for the various types of work.

Faults and maintenance of machines. Over-heating due to mechanical and electrical defects. Sparking at brushes. Loss of residual magnetism, etc. Testing machines—use of the megger.

Simple calculations on starters.

**General. A.C.**—Production of an alternating waveform. The sine law. Frequency; amplitude, instantaneous and maximum values. Relation between frequency, number of poles and speed of a machine. R.M.S. and average values. Form factor.

Representation of an alternating quantity by means of vectors to give instantaneous and R.M.S. values.

*The Series Circuit.*—Resistance, inductances and impedance. Current and voltage relationships. Use of vectors. Power, apparent power (VA) reactive volt-amp and power factor. The impedance triangle. Reactive and active components of current.

*The Parallel Circuit.*—Treatment by vectors only of fairly simple circuits. Capacitance and the application of capacitors to power factor improvement. The desirability of high power factors.

*Three-Phase Systems.*—Star and delta (mesh) connections for supplies and loads. Phase and line relationships. Power. Three-phase 4-wire distributor. The application to the rotating magnetic field.

*Alternators.*—Construction. E.m.f. equation. Synchronising and reference to load sharing.

*Induction Motors.*—Construction. Slip. Reference to rotor e.m.f. and frequency. Typical torque-speed curves. Wound, slip ring and cage types. Description of double wound type. Starting methods.

*Synchronous Motors.*—Construction. Starting methods. Reference to use for power factor correction.

*Comparison.*—General comparison of single-phase and three-phase systems bringing out the saving in cost of a three-phase system.

*Propulsion.*—Types using d.c. and a.c. machines. Turbo-electric drives; starting methods; speed changing. Advantages and disadvantages of electrical propulsion.

*Single-Phase Motors.*—Description of general common types. Starting.

*Transformers.*—Elementary principles and general description.

*Instruments.*—Simple treatment (qualitative) of dynamometer, wattmeter, frequency meter, power factor meter, rotary synchroscope.

#### SECOND CLASS ELEMENTARY NAVAL ARCHITECTURE.

(One paper of three hours. Six questions only out of nine to be attempted.)

*General.*—Displacement. Wetted surface. Block, midsection, prismatic and water-plane area coefficients. Tons per inch immersion. Application of Simpsons first rule to areas and volumes.

*Draught and Bouyancy.*—Alteration of mean draught due to change in density of water. Buoyancy and reserve buoyancy. Effect of bilging amidship compartments.

*Transvers Stability.*—Shift of centre of gravity due to addition or removal of ballast, fuel, or cargo. Stability at small angles of heel (given the second moment of area of the waterplane or formulae) The inclining experiment.

*Resistance and Propulsion.*—Comparison of skin frictional resistance of hull with model at different speeds.  $R_f = F.S.V_n$ . Admiralty and fuel coefficients. Relation between speed of vessel and fuel consumption with constant displacement and assuming that resistance varies as  $(\text{speed})^n$ . Elementary treatment of propeller. Pitch, apparent slip, real slip, wake, thrust and power.

*Structural Strength.*—Simple problems on strength of structural members to resist liquid pressure. Loading due to head of liquid.

*Ship Construction.*—Common terms used in the measurement of steel ships, e.g. length between perpendiculars, breadth overall, moulded depth, draught and free-board. Definitions of shipbuilding terms in general use. Descriptions and sketches of structural members in ordinary types of steel ships. Machinery seating arrangements. Watertight doors. Hatches. Rudders. Propellers. Stern tubes. Watertight bulkheads. Double bottoms. Anchors and cables. Precautions necessary before entering empty oil fuel or ballast tanks.

The preservation in good condition of the ship's structure, in particular the bilges, bunkers, tanks under boilers and watertight doors.

Ventilation arrangements (natural and mechanical) for pump rooms in tankers and for holds, coal bunkers and oil fuel tanks.

Storage of coal Spontaneous combustion Danger of explosion from gas given off by coal

Fire detection and extinction arrangements for passenger and cargo spaces. Fire precautions in port and dry dock

Fore and aft peak tanks, double bottom and deep tank filling and pumping arrangements Compartmental drainage Levelling arrangements for damaged side compartments

Dry docking and maintenance of underwater fittings.

#### FIRST CLASS ELEMENTARY NAVAL ARCHITECTURE

(One paper of three hours Six questions only out of nine to be attempted)

*General*—Form coefficients Wetted surface formulae Simpson's first rule applied to areas, moment of areas, second moments of areas, volumes, moments of volumes, centroids and centres of pressure

*Transverse Stability*.—Centre of gravity Centre of buoyancy Metacentre Moment of statical stability GZ curves cross curves of stability Hydrostatic curves commonly supplied to ship Effect of free liquid surface and subdivision of tanks Dangers due to water accumulation during fire fighting Effect of suspended weights Practical requirements to ensure stability at sea Management of water and fuel tanks Filling and emptying tanks at sea.

*Longitudinal Stability*.—Longitudinal BM and GM and statical stability Centre of flotation and its calculation Moment to change trim by one inch.

*Draught Trim and Heel*.—Changes due to adding or removing fuel ballast or cargo Changes due to alteration in density of sea water Changes due to bilging of compartments using the lost buoyancy and added weight methods Forces on rudder and stress in rudder stock Heel when turning, including effect of centrifugal force and of rudder

*Resistance and Propulsion*.—Derivation of Admiralty and fuel coefficients Consideration of total resistance as the sum of frictional and residuary resistance The law of corresponding speeds Froude's law of comparison Simple problems on the prediction of full scale resistance from model experiments Simple problems involving the use of EHP, DHP and QPC Simple problems on propellers Pitch ratio Wake factor True slip Apparent slip Thrust and power Cavitation

*Ship Construction*.—Forces on ship under various conditions, including the effect of panting and pounding Construction of all parts of steel ships Structural fire protection arrangements Fire detection and extinction arrangements Fire precautions in port and in dry dock Storage and ventilation of coal Danger of explosion of gas given off by coal Bilge and ballast arrangements Levelling arrangements for damaged side compartments Dry docking Ventilation of holds and oil fuel tanks

*Ship Measurement and Classification*.—Meaning of "classed" and "unclassed" ships Three island and shelter deck vessels Common terms used in measurement of modern steel ships Common terms used in tonnage measurement, e.g. gross tonnage, nett tonnage, propelling power allowance, tonnage hatch.

#### ENGINEERING KNOWLEDGE

(Second Class and First Class)

Candidates for a combined Steam and Motor Second Class Certificate must be prepared to be examined in all the items (a) to (w), but those for a steam certificate or the Steam Endorsement of a Motor Certificate will not be examined in items (q) to (w) and those for a Motor Certificate or the Motor Endorsement of a Steam Certificate will not be examined in items (j) to (p). Candidates for First Class Certificates or First Class Endorsements will be expected to display a fuller knowledge of the different items in the Syllabus than Candidates for a

Second Class Certificate or Second Class Endorsement and will also be liable to be examined in items (x) and (y).

**NOTES:**

1. The Engineering Knowledge to be shown by candidates is that which is required for the use, operation and maintenance of the machinery, equipment and ship structure usually in the charge of the Engineer. A knowledge of the methods of manufacture of the various components is also required.

2. Candidates for certificates and endorsements are required to take a written examination followed by an oral examination.

3. The written examination for a Steam or Motor Certificate consists of two papers of three hours each—six questions only to be attempted out of nine in each paper. One question in the morning paper will be compulsory for First Class candidates.

4. The written examination for a combined Steam and Motor Certificate consists of three papers of three hours each—six questions only to be attempted out of nine in each paper. One question in the morning paper will be compulsory for First Class Candidates.

5. The written examination for a Steam or Motor Endorsement consists of one paper of three hours—six questions only to be attempted out of nine in the paper.

6. Candidates may be required to illustrate their answers by means of free-hand sketches.

(a) The general effects of various treatments on the physical properties of materials commonly used in the construction of marine engines and boilers, and the mechanical tests to which these materials are normally subjected.

(b) Heat and Combustion. The properties of steam, fuel, lubricants and other liquids, gases and vapours used in machinery on board ship.

(c) The use, constructional details and principles involved in the action of the pressure gauge, thermometer, pyrometer, barometer, salinometer, hydrometer and other meters commonly used by engineers on board ship.

(d) The causes, effects and usual remedies for incrustation and corrosion. Feed water and blow densities, and scale formation.

(e) (1) Constructional details and working principles of marine engines; methods of determining their B.H.P. The principles of working and methods of calibration of dynamometers and torsion meters.

(2) The methods of dealing with wear and tear of machinery and boilers. The alignment of machinery parts. The correction of defects due to flaws in material or accident. Temporary or permanent repairs in the event of derangement or total breakdown.

(f) Constructional details and principles of action of pumps fitted in ships. The general requirements concerning feed, fuel, bilge and ballast pumping systems.

(g) The constructional arrangement, details and working of steering-engines and gears, refrigerating machinery, hydraulic and other auxiliary machinery, and such steam and internal combustion engines as are used for emergency and auxiliary machinery on board ship.

(h) Application of indicator. Calculation of mean pressure and horse-power. Fluctuation of pressure in the cylinder as shown by indicator diagrams.

(i) (1) Precautions against fire or explosions due to oil or gas. Flash point. Explosive properties of gas or vapour given off by fuel or lubricating oils when mixed with a quantity of air. The danger of leakage from oil tanks, pipes, gas producers and vaporisers, particularly in bilges and other unventilated spaces. The action of wire gauze diaphragms and the places in which such devices should be fitted.

(2) Spontaneous combustion of coal. Explosive properties of gas given off by coal.

(3) Fire detection. Methods of dealing with fire. Action and maintenance of mechanical and chemical fire extinguishers and other fire-fighting appliances, respirators and safety lamps.

(j) The methods of constructing marine steam engines and boilers, the processes to which the several parts are submitted, or which are incidental to their manufacture, and the methods employed in fitting the machinery on board ship.

(k) The various types of propelling and auxiliary machinery now in use, the functions of each important part and the attention required by the different parts of the machinery on board ship.

(l) The methods of testing and altering the setting of the steam admission and exhaust valves, and the effect produced in the working of the engine by definite alterations in the settings of the valves.

(m) The constructional details and working of evaporators, feed water heaters and feed water filters.

(n) Marine boilers of various modern designs; the manner of staying them, and also the prevention of movement of boilers when vessels are pitching or rolling. The determination by calculation of suitable working pressures for boilers of given dimensions.

(o) The use and management of boiler fittings and mountings, with special reference to water-gauges and safety valves. Precautions necessary when raising steam and operating stop valves, with particular reference to the danger arising from water-hammer action.

(p) Constructional details, operation and maintenance of installations generally employed for assisting draught, superheating steam and burning coal or oil fuel.

(q) The principles underlying the working of internal combustion engines. The differences between various type of engines. Constructional details of internal combustion engines in general use.

(r) The nature and properties of the fuel and lubricating oils generally used in internal combustion engines. The supply of air and fuels to cylinders of engines of different types. The constructional details of apparatus for carburetting or atomising the fuel. The means of cooling the cylinders and pistons. Constructional details and working of air compressors.

(s) The methods of constructing marine internal combustion engines. The processes to which the several parts are submitted or which are incidental to their manufacture, and the methods employed in fitting the machinery on board ship.

(t) Starting and reversing arrangements and the various operations connected therewith.

(u) The attention required for the operation and maintenance of the various parts of machinery. The use and management of valves, pipes, connections and safety devices employed.

(v) Enumeration and description of defects arising from working of machinery. The remedy for such defects.

(w) Constructional details and management of auxiliary steam boilers, their fittings and mountings, with special reference to water-gauges and safety valves. Constructional details and management of auxiliary machinery. Draught, combustion equipment, oil fuel equipment.

#### CANDIDATES FOR FIRST CLASS CERTIFICATES AND ENDORSEMENTS ONLY

(x) The administrative duties of a Chief Engineer: organisation of his staff for emergency duties and the use of safety equipment: organisation of repairs and surveys. Reports to owners.

(y) The recognition of irregularity in the running of engines from indicator diagrams. The rectification of these irregularities. Illustration by means of sketches of the change produced in the diagram due to an alteration in the setting or working of the valves or any other factors.

### ORAL EXAMINATION

The oral examination will be largely based upon the Practical knowledge subjects of the examination and will include questions on the management of engines and boilers at sea, the duties of the supervising engineer, the work to be done to engines, boilers and auxiliary machinery in port and the periodical examination of the working parts.

Candidates should also be well acquainted with machinery and boiler casualties which may occur at sea and be able to state how these may be prevented and remedied.

### APPENDIX D.

[See rule 69]

### SYLLABUS FOR THE EXTRA FIRST CLASS EXAMINATION

Candidates are expected to show a more extensive knowledge of all the items in the syllabuses for First and Second Class candidates.

### ENGINEERING KNOWLEDGE

Questions will be set to test the candidate's knowledge of technological investigations which have influenced engineering practice and important developments arising therefrom free from the limitations of the Second and First Class examination syllabus.

#### THEORY OF MACHINES (MECHANICS OF FLUIDS)

Plane kinematics of simple mechanisms. Instantaneous centres of rotation. Relative velocity of machine parts by calculation and graphic methods. Displacement, velocity and acceleration diagrams. Calculation of displacement velocity and acceleration of slider crank mechanisms. Cams. Theory of shape and action of gear teeth. Helical, bevel worms, spur gearing and gear trains. Inertia forces on engine mechanisms. Balancing of rotating masses, primary balancing of reciprocating parts, secondary balancing of "in line" engines. Turning moment diagrams. Flywheels. Governors. Vibrations of mechanical systems including forced vibration and the effect of viscous damping. Torsional oscillations of shafting. Whirling of shafts. Gyroscopic theory and action.

Friction, belt, rope and chain drives, clutches. Lubrication, theory of boundary film lubrication, ball and roller bearings.

*Hydrostatics.*—Fundamental properties of fluids. Viscosity, surface tension. Resultant pressure on plane surfaces and on surfaces of single curvature, centre of pressure. Vertical stability of the atmosphere.

*Hydrodynamics.*—Streamline, laminar and turbulent flow, influence of solid boundaries on fluid motion. Bernoulli's principle, continuity of flow. Distribution of pressure and velocity in free and forced vortices. Resistance of viscous fluid in streamline or turbulent motion. Use of coefficients to correct for resistance and streamline contraction. Measurement of velocity of incompressible flow by Pitot and static pressure tubes, orifices, notches and Venturi meter. Loss of head due to bends, sudden enlargements and contractions—hydraulic gradient. Dynamical similarity. Flow between parallel surfaces and in circular pipes. Critical velocities for flow in pipes. Reynolds' number, Rayleigh's formulae. Water-hammer. Impact and reaction of jets. The theory of centrifugal pumps, reciprocating pumps, accumulators and other hydraulic machines with a marine application.

### STRENGTH AND PROPERTIES OF MATERIALS

Stress and strain-Hook's law. Complementary shear stress. Modulus of elasticity. Modulus of rigidity; Poisson's ratio. Relationships between the elastic constants. Temperature stresses. Complex stress systems. Principal stresses and strains. Resilience, strain energy. Impact loading. Theories of elastic failure.

Shearing force. Bending moments, slope and deflection in freely supported and built-in beams and cantilevers. Distribution of stress in beams. Leaf and flat spiral springs.

Struts subjected to axial and parallel eccentric loadings.

Stresses and strains in thin walled and thick walled cylinders under fluid pressure. Compound cylinders.

Torsion of shafts, transmission of power by shafting. Close coiled and open coiled helical springs.

Stress and deflection in frameworks treated analytically and graphically.

Mechanical properties of materials, composition and properties of the important ferrous and non-ferrous metals. Thermal equilibrium diagrams, iron carbon diagram, microstructure and macrostructure. Heat treatment and uses of plain and alloy steels. Cast irons including high duty and malleable types. Casting technique for ferrous and non-ferrous metals. Production of ingots and their defects. Effects of cold working. Creep and fatigue of metals. Corrosion and corrosion protection. Welding procedure and examination of welds. Non-destructive methods of metal testing.

Common types of testing machines and instruments. Material testing procedure.

#### APPLIED THERMODYNAMICS

The properties of gases and vapours including variable specific heats. Laws of thermodynamics. Internal energy, total heat and entropy. Mixture of gases and vapours. Partial pressures.

The Carnot cycle, reversible and irreversible processes. The representation of throttling, isothermal, adiabatic, isentropic and polytropic processes on energy charts.

Ideal air and vapour cycles for prime movers, compressors, and refrigerators; their representation on energy charts. Efficiency calculations.

Flow of gases and vapours through nozzles and blading. Elementary heat transfer including conduction through composite walls.

Combustion. Properties of solid, liquid and gaseous fuels.

Calorimetry. The effects of varying air supply. Analysis of combustion products.

#### MARINE HEAT ENGINES

Boiler plant testing and efficiency. Air supply and regulation.

Condensers, feed heaters, de-aerators, economisers, air heaters, superheaters, reheaters, closed feed systems, evaporators.

Practical steam engine cycles. Effects of superheating, reheating and feed heating. Efficiencies. Turbine nozzle and blade calculations.

The reciprocating steam engine. Compounding.

Practical internal combustion engine cycles. Combustion. Effects of dissociation and variable specific heats. Refrigeration, including multiple effect evaporation. Heat pump cycles.

Carbon dioxide, Ammonia, Methyl Chloride, Arcton and Sulphur dioxide systems.

Air compressors, air motors. Reciprocating and rotary machines. Gas turbines, cycles and efficiencies. The testing and performance of marine heat engines.

#### ESSAY.

The purpose of the Essay is to test the candidates' ability to compose and write good grammatical English and to express their opinions, conclusions and suggestions in suitably written reports, business letters or essays on subjects connected with the profession or of a more general interest.

This subject will be given; one only is to be attempted.

## ENGINEERING DRAWING AND DESIGN

To produce a working drawing of any part of marine machinery, boilers, mechanical equipment or parts of ship structure involving the arrangement of constituent members from given particulars, and the designs calculations asked for.

Two subjects will be given; one only is to be attempted.

## ELECTROTECHNOLOGY

*Electromagnetism.*—Magnetic properties of ferromagnetic material, calculation of ampere turns for composite magnetic circuits, energy stored in magnetic field, self and mutual inductance, effect of inductance or capacitance on d.c. circuits.

*Electrostatics.*—General principles of electrostatics. Intensity and strength of electric fields. Theorems of Gauss and Coulomb. Potential and capacitance, potential gradient. Condensers—charge and discharge of condensers including oscillatory charge and discharge. Principles of dielectrics.

*D. C. Machines.*—Construction of d.c. machines. Windings, including multiturn windings. Equaliser rings. Commutation. Armature reaction, interpoles. Characteristics of all types of d.c. motors and generators. Motor speed and torque—motor starting and control. Simple qualitative treatment of the amplidyne and metadyne, application of amplidyne and metadyne to control of speed, current and voltage. Operation of d.c. generators in series and parallel. Testing of d.c. machines, direct and indirect methods—separation of losses, retardation and regenerative methods of testing. Distribution of d.c. current, 3-wire system, balancers, boosters, ring main systems.

*Alternating current.*—Generation of sinusoidal e.m.f. waveform, amplitude and frequency. Values of sinusoidal current and voltage. Calculations on simple circuits involving resistance, capacitance, inductance and resonance. Vector representation. Power factor. Single-phase and three-phase circuits with star and delta connections. Power and energy measurement in three-phase balanced circuits. Transformers, transformation ratios, vector diagrams, voltage regulation and efficiency.

*A.C. Machines.*—Flux distribution in salient pole and non-salient pole fields. E.m.f. generated in coils and distributed windings. Alternators and their use as synchronous motors. Polyphase induction motors, theory, characteristics and starting arrangements. Parallel operation of a.c. alternators and instruments. Rectifiers for a.c. power circuit.

*Electronics.*—The vacuum diode and triode valves. Elementary description of Cathode-Ray tube, transistors, rectifiers, elementary treatment of amplifier currents.

*Illumination.*—Filament and gas discharge type of electric lamps.

## NAVAL ARCHITECTURE

Derivation of Simpson's and Tchebycheff's rules.

*Stability.*—Hydrostatic curves, statical curves and cross curves of stability. Dynamical stability. Free surface problems. Grounding.

*Subdivision of passenger ships.*—Floodable length curves and their use.

*The Strength of ships.*—The trochoidal wave theory. Local and longitudinal strength calculations. Statistical strength treated graphically and by calculation. Dynamical effects. Oscillation, rolling and pitching of ships. Simple qualitative treatment of vibrations.

*Resistance and propulsion of ships.*—Model experiments and laws of comparison. Dynamical similarity. Viscosity and its effects on fluid friction. Dimensional analysis and the non-dimensional factor approach to Reynolds' and Froude's numbers. Other methods of estimating power, e.g. Admiralty coefficient formula, Taylor's curves, Circular constants and their use.

Propellers, geometry of the helix, typical triangle of velocities introducing slip and angle of incidence. Thrust, torque and efficiency. Blade element theory—lift and drag on serfoil section. Axial momentum.



Propeller coefficients and their use. Cavitation. Interaction between screw and ship Hull efficiency and its factors. Overall propulsion coefficient.

*Materials used in ship building.*—Steel, aluminium, notch embrittlement.

*Classification Societies' Rules.*—Modern developments in structural design. Discontinuities. The employment of welding. Corrosion and fouling.

## GENERAL PRINCIPLES OF LOAD LINE ASSIGNMENT AND TONNAGE MEASUREMENTS.

### APPENDIX E

[See rules 13 and 38]

#### (1) Specimen Form of Testimonial for Workshop Service

Name and address of Engineering Works.....

I certify that the following is a full and true statement of the Workshop Service performed by ..... under my supervision at the above works.

Period of Service Dates		Total period	1. Designation 2. Nature of Duties. For appropriate description see below.	Particulars of weekly release periods to permit apprentice to pursue technical studies.
From	to			

Report as to ability .....

Report as to conduct .....

Remarks (if any) .....

Signature of employer or his representative.....

#### Description of Duties

- I. (a) Installation or repair of substantial machinery in the machinery spaces of new and existing ships (nature of duties must be specified).
- I. (b) Fitting, erecting or maintenance of machinery other than the above suitable for the training of Marine Engineers (Nature of duties must be specified).
- II. Fitting on machinery other than I.
- III. Metal turning.
- IV. Machine work (other than lathe).
- V. Work in Drawing office, as draughtsman or engineer.
- VI. Other work, the nature of which should be specified. The use of the appropriate numerals is sufficient except in cases I(a), I(b) and VI.

(2) *Specimen Form of Testimonial for Sea Service*

{ Name and address of Shipowner or  
Company.

I certify that the following is a full and true statement of the sea service performed by  
supervision on board the\*..... under my  
O.N. ....

Period of Service Dates.	Rank of Officer and actual seniority on watch	Type of main engines and boilers. Single or Twin-screw. N.H.P. or B.H.P.	Nature of duties. For appropriate description see below.
From To			

Number of days actually spent at sea.....

Report as to ability.....

Report as to conduct.....

Report as to sobriety.....

Signature of Chief Engineer.....

Remarks (if any).....

Signature of { Engineer Superintendent .....  
or  
Master or other representative of  
owners.....

\*Steam of motor ship. Name of ship and official number.

*Description of Duties*

- I. On fitters' work either by day or regular watch.
  - (a) Within main engine and boiler spaces.
  - (b) Outside main engine and boiler spaces.
- II. (a) On refrigerating or other machinery not essential to the propulsion of the vessel.
- (b) On auxiliary engines separated from main propelling units but worked in conjunction therewith.
- III. On regular watch on Main Engines as
  - (a) First Engine Room Assistant under the Senior in full charge.
  - (b) Second Engine Room Assistant.
  - (c) Junior Engine Room Assistant.
- IV. On regular watch on Main Boilers.
  - (a) In charge of all stokeholds.
  - (b) In charge of a section or one stokehold only.
  - (c) As Boiler Room Assistant.
- V. On regular watch on Main Engines and Boilers simultaneously.
  - (a) In full charge of the entire watch.
  - (b) As First Assistant to the Senior in full charge.
  - (c) As Junior Assistant.

**NOTE.**—It is recommended that this form should be used when the Engineer reported on, or when the Chief Engineer, leaves a ship.

## APPENDIX F

[See rule 62]

## STUDIES FOR CERTIFICATES

Certain places of higher education provide special intensive courses in the theoretical aspects of marine engineering which are specially designed for candidates who, possessing the necessary workshop and sea experience, wish to consolidate and refresh their knowledge before sitting for either the Second or First Class Certificates of Competency. A list of colleges which at present provide such courses to the satisfaction of the Central Government is at Appendix G.

Candidates are advised to consult the Principals of the Colleges mentioned above regarding the choice of text books from which they should study. They should also read technical journals and the Transactions of their professional institutions. There are also a number of Notices issued from time to time by the Ministry of Transport and Civil Aviation, United Kingdom, with the contents of which all marine engineers should be familiar. The most important of these are:

Notice No. 106 (Revised 1946), Fires in Steamship Bunker and Cargo Coal—Spontaneous Combustion;

Notice No. 439, Prevention of fire in Cargo Ships using Oil Fuel;

Notice No. 415, Fires in Ships.

Copies of these may be obtained from the Mercantile Marine Departments, Bombay and Calcutta and also from Mercantile Marine Offices in United Kingdom.

Copies of specimen examination papers for all grades of certificates of competency may be obtained from the Mercantile Marine Department, Bombay/Calcutta/Madras.

## APPENDIX G

[See rule 62]

## COLLEGES WHICH RUN COURSES FOR MARINE ENGINEERS

*Name of School or Institution. (c.f. Appendix F).*

Aberdeen: Robert Cordon's Technical College.

Belfast: City of Belfast College of Technology.

Bombay: Nautical and Engineering College.

Calcutta: Marine Engineering College.

Cardiff: Welsh College of Advanced Technology.

Dundee: Dundee Technical College.

Glasgow: Stow College, School of Engineering.

Greenock: Watt Memorial School.

Hull: College of Technology, Kingston-upon-Hull.

Leith: Leith Nautical College.

Liverpool: City of Liverpool College of Technology.

London: L.C.C. Poplar Technical College, Poplar, E. 14.

South Shields: The South Shields Marine and Technical College, Westoe.

Southampton: Southampton Technical College.

## APPENDIX H

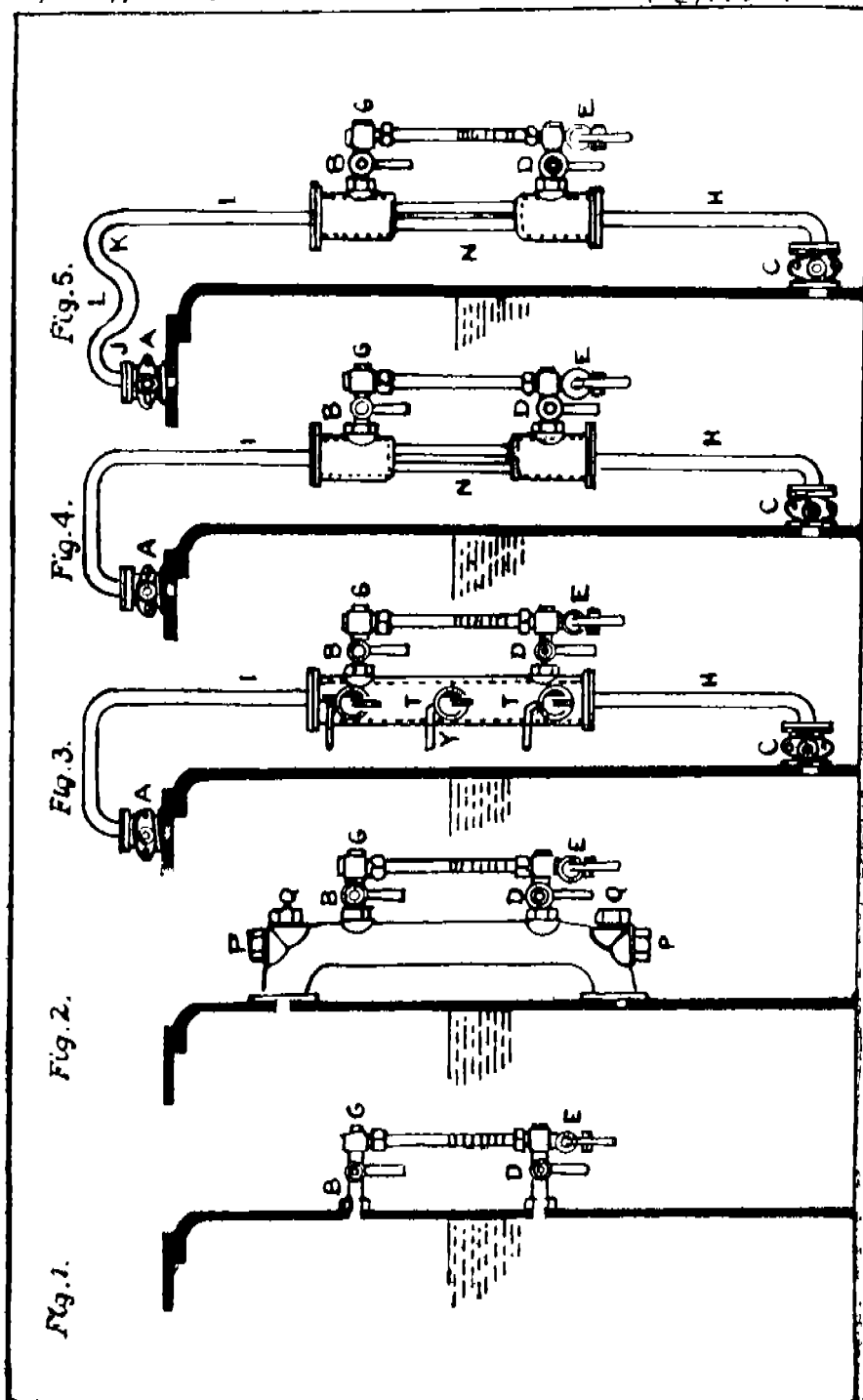
[See rule 58]

## READING THE WATER-GAUGE

Notwithstanding that the reading of the water-gauge is made a special feature in the examination of engineers many boiler casualties result from the Engineer of the watch either not understanding the construction of the water-gauge fittings or not satisfying himself by actual trial that the cocks, pipes, etc., are clear.

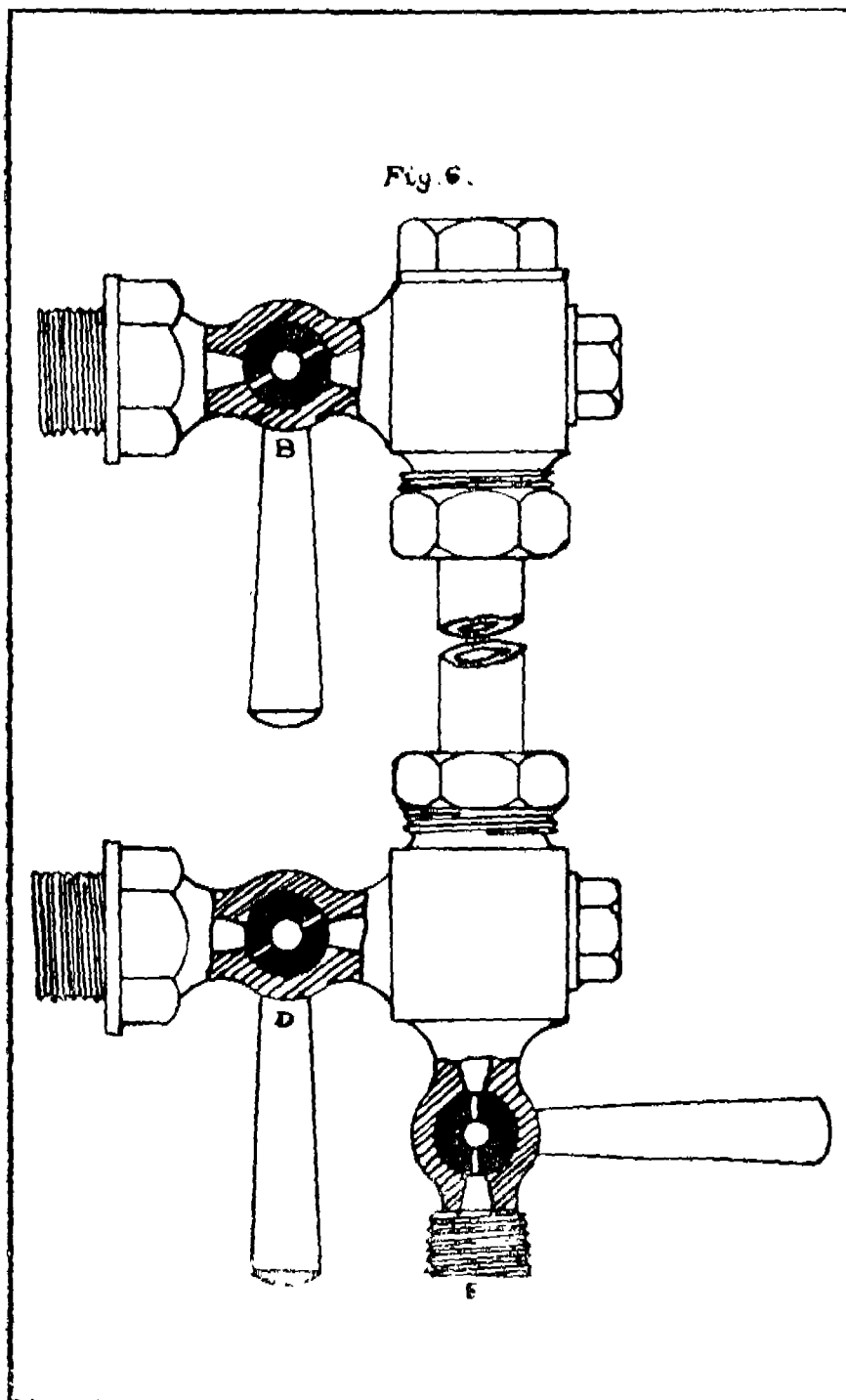
To face Appendix G

PLATE I



To face Appendix G

PLATE 2



Unless a candidate under examination is able to prove that he understands how to verify the indications of the water-gauge, he will not be passed in practical knowledge. Failure in practical knowledge involves a candidate going to sea for further experience before re-examination.

The sketches, Figures 1, 2, 3 and 4, Plate I, represent the usual methods of attaching water-gauge mountings to marine boilers, the smoke boxes being omitted, for convenience, from Figures 3, 4, and 5. The important features in each gauge and the method of verifying its indications are dealt with separately in the following notes.

#### REFERRING TO FIGURE 1 ONLY

In this case the water-gauge cocks are attached direct to the boiler, and the accuracy of the gauge when the boiler is under steam can be tested as follows:

First: Let B remain open, then close cock D and open cock E, and if steam issues it proves that cock B and the passage through the top fitting and gauge glass are clear. If no steam or water issues, either cock B or the passage through the top fitting and gauge glass is choked and the gauge cannot act properly until the obstruction is removed.

Second: Close cock B and open D and E, and if water issues, cock D is clear. If no water or steam issues, either cock D or the passage from the boiler through the lower fitting is choked and must be cleared before the gauge can act properly.

#### REFERRING TO FIGURE 2 ONLY

In this case the gauge cocks are attached to a bent pipe of comparatively large diameter (at least 3 inches in the bore), the upper end of which communicates with the steam space, and the lower end with the water space of the boiler. Owing to the bore of the pipe being large, it is not likely to become choked or stopped under the ordinary conditions of working. The water-gauge is, therefore, in practically the same condition as if it were attached direct to the boiler, as in Figure 1. This gauge, when at work, is tested in precisely the same manner as the one shown in Figure 1.

Screw plugs are inserted at P.P. and Q.Q., by the removal of which the apertures in the pipe can be cleared if necessary by the insertion of a wire or rod when steam is down.

#### REFERRING TO FIGURE 3 ONLY

In this gauge there is an open communication from A to C through the column Y, and in order to "blow through the glass" it is only necessary to shut cocks D and B alternately, keeping E open. But to "blow through the water-gauge", including the pipes H and I, it is necessary, after blowing through the glass as described above to shut A and C alternately, at the same time keeping B, D and E open for such time as will ensure the complete discharge of the contents of the gauge and its connections. When B, D and C are clear and A choked the steam lodging in the glass and in the pipe I leading from column Y to A becomes condensed and the water flowing through C to take its place rises in column Y and in the glass to a level above that of the water in the boiler. In other words, the gauge shows a false level. If now E be opened and water is blown out, then on E being again closed the water in the gauge will rise higher than before and be still further misleading. On the other hand, when B, D and A are clear and C choked, the water, if any, in the glass is trapped and no longer rise and falls with the water in the boiler or with the motion of the vessel; it, however, slowly rises in the glass owing to the condensation of the steam in the upper part of the gauge until such time as E is opened, when the whole of the water in the glass is blown out; and on E being closed, the glass does not show any water, notwithstanding that the water in the boiler may be at the proper level. When the test cocks T.T.T. are attached to column Y, as shown in Figure 3, they cease to be reliable when either cock A or C or the pipe in connection therewith is choked, or nearly choked; hence it is desirable that such test cocks should be fitted direct to the boiler and not to the column as shown.

#### REFERRING TO FIGURE 4 ONLY

Sometimes the water-gauge fittings are arranged as shown in Figures 4 and 5, with no passage up the column, the central portion (N) of the column being simply

a pillar or connecting piece of any convenient section between the upper and lower portion to which the cocks B and D are attached.

By this arrangement double communications are obviated and there is no need for what is known as "double shut off" in testing the accuracy of the gauge. When, however, the gauges are constructed in this manner, the cocks B and D are unreliable as test cocks in the event of there being no glass in the gauge. This feature should be carefully noted. Moreover, when in working condition the reduction of pressure in the glass which arises when E is opened causes the water in pipe H to rise above its normal level. This objectionable feature should also be noted.

#### REFERRING TO FIGURE 5 ONLY

Sometimes there is a bend, L, in the steam pipe I leading from cock A to cock B. This has occasionally escaped observation when new boilers have been fitted on board ship. In most cases this bend arises from the pipe being led in an abnormal direction to escape other pipes, beams or fittings near the smoke-box. With such a bend the condensed steam collects in the pipe and falls to the bottom of the bend, and in time it completely fills the pipe from J. to K. The steam from K down to the level of the water in the glass is thereby trapped and, as condensation proceeds, leads to a reduction of pressure in the pipe blow that of the boiler and an equivalent rise of the water in the bend and also in the gauge glass. When the vessel is quiescent the water in the gauge glass increases in height until cock E is opened or until the pressure in the boiler is so much in excess of that in the lower part of pipe I as to cause the water in the bend to be blown into the gauge glass. In either case instantaneous change of water level in the glass ensues.

In the ordinary course of working, the phenomenon described above is more or less modified by the presence of air in the upper part of the gauge and by the rise and fall of the water in the boiler and gauge glass arising from the rolling or pitching motions of the vessel.

#### OTHER SPECIAL POINTS TO BE NOTED

When cocks A and C are omitted, as in Figure 2, this is owing to the bore of the stand pipe being sufficiently large to enable it to be regarded as part of the boiler. Such pipes require, however, to be examined and cleared at intervals by passing a rod through the holes provided for the purpose at P.P. and Q.Q.

Cocks at A and C are necessary for the testing of gauges arranged as shown in Figures 4 and 5. Candidates, however, should be fully aware of the impossibility of testing the reliability of the indications of water-gauges arranged as in Figure 3 when the cocks A and C are absent, and of the effect which the choking of cock A or C, or pipe H or I, has on the indications of the test cocks T.T.T. when attached to column Y.

Many ships afloat are fitted with water-gauges as shown in Figures 3 and 4, and it is therefore specially important that engineer candidates should thoroughly understand their construction, the principle on which they act, and the steps which must be taken to keep them in an efficient condition.

When fitting a gauge glass into its place, it is specially important that it should not be placed so high as to prevent a clearing rod being inserted at G, Figures 1, 2, 3, 4 and 5. This defect, especially if it occurs in a water-gauge attached to a boiler subject to priming permits a rapid accumulation of scum around the top of the glass and results in the choking of the orifice leading from cock B to the gauge glass in each of the figures.

When a gauge glass is too short, or is placed either too low in the fittings, it is also liable to become choked by the packing material being forced over its ends by the glands whilst being screwed up.

The use of unsuitable or insecure internal pipes in connection either with the ordinary glass gauge cocks of the description shown in Figure 1, or with test cocks which are jointed to the boiler itself, should also be carefully guarded against.

Boiler casualties have resulted from the cocks B and D having the parts wrongly placed as shown in Figure 6, Plate II. In one case of that kind, which

forms the subject of Report No. 208 under the U.K. Boiler Explosions Acts, the engineer in testing the water-gauge omitted to see that the passages in the cocks B and D were clear *when the handles were in their proper working position*. This defect could easily have been discovered if proper attention had been paid to the condition of the cocks. A defect of this nature may be due to faulty construction originally, or to the handle of the cock having been over strained, and the neck twisted. Whether the passages in the plugs are fair and clear can, however, be verified in a few minutes. As an illustration, the water cock D, Figure 6, Plate II, can be verified by blowing through E with B shut and then moving the handle of D to one side until it is just closed, and then to the other side until it is again just closed; the proper working position of the handle is about equally distant from each of the above positions. The other cocks can be verified in the same manner.

Another serious casualty occurred through the handle of the cock A, Figure 3, having been twisted from its original position relatively to the orifice of the cock, resulting in the cock being shut when apparently open.

When a water-gauge, that is clear in all its parts, has been thoroughly blown through, the water in the glass rises above the level at which it formerly stood, immediately the drain cock E is closed, but if left undisturbed for a time it gradually falls to its former position. The amount of rise which occurs on these occasions depends chiefly on the temperature of the contents of the boiler and on the length of the pipes by which column Y is connected top and bottom to the boiler, but in cases where the gauge is of the description illustrated in Figures 3, 4 and 5, it amounts in high pressure boilers to about 4 inches, while the time occupied by the water in returning to its former level ranges from 30 to 40 minutes. The cause of this rise is twofold, namely, (a) the displacement of the comparatively cold water in the pipe H by hotter and proportionately lighter water from the boiler and (b) a slight condensation of the steam and a corresponding fractional reduction of pressure in pipe I. The cause of the gradual subsidence of the water in the glass to its former level is also of a dual character, namely, (a) the cooling of the water in pipe H, and (b) the diminution in the condensation of steam in pipe I owing to the collection therein of air released from the steam condensed.

These results will, however, be somewhat modified if the water in the boiler is of higher density than in Pipe H, and this will nearly always be the case owing to the condensation of the steam in the glass and upper fittings of the water-gauge, causing the water in the lower part to be fresher than that in the boiler.

Candidates should understand the necessity for periodically blowing through the water gauge on each boiler (no matter what the form may be) in a systematic and thorough manner, and in cases where a boiler is fitted with two water-gauges, of keeping both in constant use; finally, they should realise the necessity for keeping the water-gauges well-lighted, clean, and in all respects efficient.

[No. 30-ML(9)/59.]

B. P. SRIVASTAVA, Dy. Secy.

(Departments of Communications and Civil Aviation)

(Posts and Telegraphs Board)

New Delhi, the 12th June 1963

**G.S.R. 1031.**—In exercise of the powers conferred by the proviso to article 309 of the Constitution, the President hereby makes the following rules to amend the Posts and Telegraphs Department (Auto Exchange Assistants) Recruitment Rules, 1963, namely:—

1. These rules may be called the Posts and Telegraphs Department (Auto Exchange Assistants) Recruitment Amendment Rules, 1963.

2. In rule 7 of the Posts and Telegraph Department (Auto Exchange Assistants) Recruitment Rules, 1953 (hereinafter referred to as the said rules):

(i) in item (a), the following shall be added at the end, namely:—

“(iv) Aptitude test (oral and practical).”

(ii) after item (c), the following item shall be added, namely:—

“(d) the aptitude test will be conducted by a Board consisting of a Director of Telegraphs or an Officer of equivalent rank and two other Telegraph Engineering Service, Class I, Officers (senior time



scale) nominated by the General Manager. The details of the test will be drawn up by this Board. This test will, however, include the assembly of pieces to make pattern, the use of tools, assembling of dismantled machine parts, etc. within a short time. Only the candidates qualifying in the written test should be subjected to the aptitude test and those qualifying in this test should be finally selected in the order of merit in the entire examination (including the aptitude test)."

3. In rule 26 of the said rules:

(i) for sub-rule (b), the following sub-rule shall be substituted, namely:—

"(b) An employee of the Indian Posts and Telegraphs Department, whether recruited as an outside candidate or as a departmental candidate, shall be treated as on duty under Fundamental Rule 9(6)(b)(i) and shall be entitled to the same pay and allowances as he would have drawn but for his deputation to the training class, or the training allowance, whichever is greater."

(ii) sub-rule (c) shall be omitted.

[No. 40-1/61-NCG.]

A. BHATTACHARJEE,

Assistant Director General (STN).

(Departments of Communications and Civil Aviations)  
(P. & T. Board)

*New Delhi, the 14th June 1963*

**G.S.R. 1032.**—In exercise of the powers conferred by Section 10 of the Indian Post Office Act, 1898 (6 of 1898), the Central Government hereby makes the following rules further to amend the Indian Post Office Rules, 1933, namely:—

1. (1) These rules may be called the Indian Post Office (Second Amendment) Rules, 1963.

(2) They shall come into force on the 1st July, 1963.

2. In the Indian Post Office Rules, 1933,—

(i) for rule 5 the following rule shall be substituted, namely:—

"5. The following rates of postage shall be chargeable on postal articles when the postage is prepaid—

#### LETTERS

(A) For any part of the world served by the Foreign Post with the exception of Ceylon, Nepal and Pakistan—

For a weight not exceeding twenty grams ..	forty naye paise.
--	-------------------

For every additional twenty grams or fraction thereof ..	twenty-five naye paise.
--	-------------------------

(B) For Ceylon, Nepal and Pakistan ..	Indian Inland rates.
---------------------------------------	----------------------

## POST CARDS

(A) For any part of the world served by the Foreign Post with the exception of Ceylon, Nepal and Pakistan—

For a single post card .. twenty-five naye paise.

For a reply post card .. fifty naye paise.

(B) For Ceylon, Nepal and Pakistan .. Indian Inland rates.

## PRINTED PAPERS (INCLUDING NEWSPAPERS AND BOOKS)

(A) For any part of the world served by the Foreign Post with the exception of Ceylon, Nepal and Pakistan—

For a weight not exceeding fifty grams .. fifteen naye paise.

**For every additional fifty grams or fraction thereof .. ten naye paise;**

Provided that in the case of newspapers which, for the purpose of inland post are treated as registered newspapers, the rate of postage shall be, for each copy, as follows:—

For a weight not exceeding fifty grams .. eight naye paise.

For every additional fifty grams or fraction thereof .. four naye paise.

(B) For Ceylon, Nepal and Pakistan .. Indian Inland rates for book packets:

Provided that in the case of newspapers which, for the purpose of inland post are treated as registered newspapers, the Indian Inland rates of postage for registered newspapers shall apply.

## EXPRESS DELIVERY

**Express delivery unregistered letters, aérogrammes, post cards and book packets .. forty naye paise in addition to the postage for the same article when not intended for express delivery.**

## "BLIND LITERATURE" PACKETS

"Blind Literature" packets to all foreign countries shall be exempt from postage.

## BUSINESS PAPERS (LEGAL AND COMMERCIAL DOCUMENTS)

(A) For any part of the world served by the Foreign Post with the exception of Ceylon, Nepal and Pakistan—

For a weight not exceeding fifty grams .. fifteen naye paise.

For every additional fifty grams or fraction thereof .. ten naye paise;

Provided that the charge for a packet of Business papers shall in no case be less than forty naye paise.

- (B) For Ceylon, Nepal and  
Pakistan .. Indian Inland rates for book packets.

#### SAMPLE PACKETS

- (A) For any part of the world served by the Foreign Post with the exception of Ceylon, Nepal and Pakistan—

For a weight not exceeding fifty grams .. fifteen naye paise.

For every additional fifty grams or fraction thereof .. ten naye paise:

Provided that the charge for a Sample packet shall in no case be less than forty naye paise.

- (B) For Ceylon, Nepal and  
Pakistan .. Indian Inland rates.

#### INSURED BOXES

For a weight not exceeding fifty grams .. twenty-six naye paise.

For every additional fifty grams or fraction thereof .. twenty-six naye paise,

Provided that the charge for a box shall in no case be less than one rupee and twenty-eight naye paise.

The Director General shall, from time to time, declare in the Post Office Guide, Part II, the countries and places to which insured boxes can be transmitted by the Foreign Letter Post.

#### PARCELS

The Director General shall, from time to time, declare in the Post Office Guide, Part II, the countries and places to which parcels may be transmitted by the Foreign Post, and the rates of postage chargeable in each case.

Postage and other charges due on parcels which are returned as undeliverable from the countries and places of destination in accordance with the arrangement in force between India and such countries and places shall be recovered from senders in India."

(ii) in rule 5-A—

- (a) for the words "Eighty naye paise" the words "Eighty-five naye paise" shall be substituted;
- (b) for the words "Rupee one and twenty-five naye paise" the words "Rupees two and five naye paise" shall be substituted.

[No. 1-13/63-R.]

S. M. GHOSH,  
Director (Mails).

**MINISTRY OF WORKS HOUSING AND REHABILITATION****CORRIGENDUM***New Delhi, the 15th June 1963*

**G.S.R. 1033.**—Please substitute the following for the first proviso in paragraph 1 of this Ministry's Notifications numbers, 15(6)/62-EWI (i), 15(6)/62-EWI (ii), 15(6)/62-EWI (iii) and 15(6)/62-EWI (iv), dated the 28th March, 1963:—

**"Provided that, subject to the issue of a certificate of eligibility in his favour, a subject of Nepal, or a subject of Bhutan, or a Tibetan refugee who came over to India before the 1st January, 1962, with the intention of permanently settling in India may also be appointed to any Service or post."**

[No. 15(6)/62-EWI.]

R. C. MEHRA, Under Secy.

**MINISTRY OF ECONOMIC AND DEFENCE CO-ORDINATION***New Delhi, the 12th June 1963*

**G.S.R. 1034.**—In exercise of the powers conferred by the proviso to article 309 of the Constitution, the President hereby makes the following rules to amend the Directorate General of Supplies and Disposals (Class III, Non-Ministerial posts) Recruitment Rules, 1961 published with the notification of the Government of India in the Ministry of Works, Housing and Supply No. G.S.R. 1309, dated the 28th October, 1961, namely:—

1. These rules may be called the Directorate General of Supplies and Disposals (Class III, Non-Ministerial posts) Recruitment Amendment Rules, 1963.

2. In the Directorate General of Supplies and Disposals (Class III, Non-Ministerial posts) Recruitment Rules, 1961, in the Schedule, in column 6, against the post of Staff Car Driver after the word "recruitment", the following shall be added at the end, namely:—

**"Preference will be given to Class IV employees of the Directorate General of Supplies and Disposals. Where no suitable person from among them is available, recruitment will be made through the Employment Exchange. The quota allotted to the candidates belonging to the Scheduled Castes and the Scheduled Tribes will be strictly given to them and if the quota cannot be filled by recruitment from among the Class IV staff in the Directorate, members of the Scheduled Castes and the Scheduled Tribes will be recruited from the Employment Exchange to make up their quota."**

[No. 49(9)/61-ES.II.]

R. RAJAGOPALAN, Under Secy.

**MINISTRY OF RAILWAYS****(Railway Board)***New Delhi, the 13th June 1963*

**G.S.R. 1035.**—In exercise of the powers conferred by section 47 of the Indian Railways Act, 1890 (9 of 1890), read with the notification of the Government of India in the late Department of Commerce and Industry No. 801, dated the 24th March, 1905, the Railway Board, with the sanction of the Central Government, hereby make the following rules further to amend the Railways Red Tariff Rules, 1960, namely:—

1. These rules may be called the Railways Red Tariff (Seventh Amendment) Rules, 1963.

2. In the Railways Red Tariff Rules, 1960 in Table I occurring at the end of Chapter I, under the heading "class 6" and subheading "Division 2",

after the item "Plastic Igniter Cord" and the entries relating thereto, the following item and entries shall be inserted, namely:—

1	2	3	4	5	6	7	8
"Plastic Igniter Wick.	..	180-B	..	..	..	..	AQ"

[No. 63-TG.II/21/3.]

P. C. MATHEW, Secy.

## MINISTRY OF INFORMATION AND BROADCASTING

*New Delhi, the 12th June 1963*

**G.S.R. 1036.**—In exercise of the powers conferred by the provision to article 309 of the Constitution, the President hereby makes the following rules to amend the Films Division (Recruitment to Class III and Class IV posts) Rules, 1959, published with the notification of the Government of India in the Ministry of Information and Broadcasting, No. G.S.R. 1090, dated the 21st September, 1959, namely:—

1. These rules may be called the Films Division (Recruitment to Class III and Class IV posts) Second Amendment Rules, 1963.

2. In the Schedule to the Films Division (Recruitment to Class III and Class IV posts) Rules, 1959,—

in column 4 against each of the Serial Numbers 34 and 36, for the existing entries the following shall be substituted, namely—

"210—10—290—15—320—EB—15—425".

[No. 3/1/63-F(A): FDRR/24.]

D. R. KHANNA, Under Secy.

## MINISTRY OF EDUCATION

*New Delhi, the 15th June 1963*

**G.S.R. 1037.**—In exercise of the powers conferred by the proviso to article 309 of the Constitution, the President hereby makes the following rules regulating the method of recruitment to Class II posts in the Training Centre for the Adult Deaf, Malakpet, Hyderabad, under the Ministry of Education, namely:—

1. **Short title.**—These rules may be called the Training Centre for the Adult Deaf (Class II post) Recruitment Rules, 1963.

2. **Application.**—These rules shall apply for recruitment to the post specified in column 1 of the Schedule hereto annexed.

3. **Number, Classification and Scale of Pay.**—The number of post, its classification and the scale of pay attached thereto shall be as specified in columns 2 and 4 of the said Schedule.

4. **Method of Recruitment, age limit and other qualifications.**—The methods of recruitment, age limit, qualifications and other matters connected therewith shall be as specified in columns 5 to 13 of the Schedule aforesaid.

Provided that the upper age limit prescribed for direct recruitment may be relaxed in the case of candidates belonging to Scheduled Castes, or Scheduled Tribes or other special categories of persons in accordance with the orders issued by the Central Government from time to time.

5. **Disqualification.**—(a) No person, who has more than one wife living or who having a spouse living, marries in any case in which such marriage is void by reason of its taking place during the life-time of such spouse, shall be eligible for appointment to the post; and

(b) no woman, whose marriage is void by reason of the husband having a wife living at the time of such marriage or who has married a person who has a wife living at the time of such marriage, shall be eligible for appointment to the post;

Provided that the Central Government may, if satisfied that there are special grounds for so ordering exempt any person from the operation of this rule.

*Recruitment Rules for the post of Director, Training centre for the*

Name of post	No. of Posts	Classification	Scale of pay	Whether selection post or non-selection post	Age limit for direct recruits	Educational and other qualifications required for direct recruits
--------------	--------------	----------------	--------------	--	-------------------------------	---

1	2	3	4	5	6	7
Director, Training Centre for the Adult Deaf, Hyderabad.	1	General Central Service Class II, Gazetted (Non-Ministerial).	Rs. 500—30—800—EB—30—830—35—900.	Not applicable.	45 Years (Relaxable in the case of Govt. servants).	<p><i>Essential :</i></p> <p>(i) Degree or diploma in Mechanical Engineering of a recognised University or Institution or equivalent qualifications.</p> <p>(ii) About 3 years' practical Industrial experience.</p> <p>The aforesaid qualifications may be relaxed by the Commission at its discretion in the case of candidates otherwise well qualified.</p> <p><i>Desirable :</i></p> <p>Two years teaching experience.</p>

*Adult Deaf under Ministry of Education.*

Whether age and educational qualifications prescribed for direct recruits will apply in the case of promotees	Period of probation, if any	Method of recruitment whether by direct recruitment or by promotion or transfer and percentage of the vacancies to be filled by various methods	In case of recruitment by promotion/transfer grades from which promotion to be made	If D.P.C. exists what is its composition	Circumstances in which U.P.S.C. it to be consulted in making recruitment
8	9	10	11	12	13
Not applicable	Two years	By transfer or deputation of officers holding analogous posts under the Central/State Governments failing which by direct recruitment. The period of deputation under the Ministry's powers shall not exceed 4 years but the same may be extended for a longer period in consultation with the U.P.S.C.		Not applicable	As required under the rules.

(No. F. 18-12/63-SW. 7.1)

C. GANESAMURTI,  
Assistant Educational Adviser.**MINISTRY OF FOOD AND AGRICULTURE**

(Department of Food)

*New Delhi, the 12th June 1963*

**G.S.R. 1638.**—In exercise of the powers conferred by the proviso to article 309 of the Constitution, the President hereby makes the following rules further to amend the National Sugar Institute, Kanpur (Classes I and II Posts) Rules, 1953, published with the notification of the Government of India, in the Ministry of

Food and Agriculture (Department of Food) No. G.S.R. 496, dated the 11th June, 1958, namely:—

1. These rules may be called the National Sugar Institute (Classes I and II Posts) Fourth Amendment Rules, 1963;
2. In the Schedule to the National Sugar Institute (Classes I and II Posts) Rules, 1958, after item 20 and the entries relating thereto, the following item and entries shall be inserted, namely:—

1	2	3	4	5	6	7
20-A. Technical Officer (Sugar Technology)	I	G.C.S. Class I	Rs. 400—400— 450—30—600 —35—670— EB—35—950	Selection	40 years and below (relaxable for Government servants).	<p><i>Essential</i> :—</p> <p>(i) Degree in Science with Post Graduate Diploma in Sugar Technology.</p> <p>(ii) About 5 years' experience in a Sugar Factory in a responsible capacity or in a recognised organisation or Institute/Department dealing with matters relating to Technological aspects of Sugar.</p> <p>Qualifications relaxable at Commission's discretion in case of candidates otherwise well qualified.</p>



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8	9	10	11	12	13
No.	Two years	By promotion failing which by direct recruitment.	<i>Promotion</i> Technical Officers (Sugar Technology). with about 3 years' service in the grade.)	Junior Class 1 D.P.C.	As required under the rules.

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[No. F. 3-5/63-Sugar.]

PARTAP SINGH, Under Secy.

**(Department of Food)***New Delhi, the 13th June 1963*

**G.S.R. 1039.**—In exercise of the powers conferred by clause (e) of section 2 of the Warehousing Corporations Act, 1962 (58 of 1962), the Central Government hereby declares the following commodities to be "notified commodities" for the purposes of the said Act, namely:—

- (1) Iron and steel (Metal).
- (2) Iron and steel structurals.
- (3) Insecticides, fungicides and weedicides.
- (4) Rubber.
- (5) Portland cement.
- (6) Coir fibre and coir products.
- (7) Textiles.
- (8) Paper and pulp including paper products.
- (9) Leather, leather goods and pickers.

[No. F. 26/24/63-SG.II.]

A. K. RAY, Dy. Secy.

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**MINISTRY OF COMMUNITY DEVELOPMENT AND COOPERATION***New Delhi, the 6th June 1963*

**G.S.R. 1040.**—In exercise of the powers conferred by the Proviso to article 309 of the Constitution, the President hereby makes the following rules regulating the method of recruitment to the posts of Telephone Operators in the Ministry of Community Development and Cooperation, namely:—

1. **Short title.**—These rules may be called the Ministry of Community Development and Cooperation (Telephone Operators), Recruitment Rules, 1963.

2. **Application.**—These rules shall apply to the posts specified in column 1 of the Schedule annexed hereto.

3. **Number, classification and scale of pay.**—The number of posts, their classification and the scale of pay attached thereto shall be as specified in columns 2 to 4 of the said Schedule.

4. **Method of recruitment, age limit and other qualifications.**—The method of recruitment, age limit, qualifications and other matters connected therewith shall be as specified in columns 5 to 13 of the Schedule aforesaid:

Provided that the upper age limit prescribed for direct recruitment may be relaxed in the case of Scheduled Castes, Scheduled Tribes and other special categories of persons in accordance with the orders of the Government of India issued from time to time.

5. **Disqualification.**—No person, who has more than one wife living or who, having a spouse living, marries in any case in which such marriage is void by reason of its taking place during the life-time of such spouse, shall be eligible for appointment to the post; and

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no woman, whose marriage is void by reason of the husband having a wife living at the time of such marriage, or who has married a person, who has a wife living at the time of such marriage, shall be eligible for appointment to the post:

Provided that the Central Government may, if satisfied that there are special grounds for so ordering, exempt any person from the operation of this rule.

*Recruitment Rules for the post of Telephone Operator in the Ministry of Communications*

Name of the post	No. of posts	Classification	Scale of pay	Whether selection post or non-selection post.	Age limit for direct recruits.	Educational & other qualifications required for direct recruits.
1	2	3	4	5	6	7
Telephone Operator.	3	General Central Services Class III, (Non-gazetted), Non-Ministerial.	Rs. 110—3—131— 4—155—EB— 4—175—5— 180	Not applicable	18—25 years	1. Matriculation or equivalent qualification. 2. knowledge of operation of telephones switch Board including the Private Automatic Branch Exchange Board.

*Development and Cooperation (Department of Community Development).*

Whether age & educational qualifications prescribed for the direct recruits will apply in the case of promotees.	Period of probation if any	Method of rectt. whether by direct rectt. or by promotion or transfer & percentage of the vacancies to be filled by various methods.	In case of rectt. by promotion/transfer, grades from which promotion to be made.	If a DPC exists what is its composition.	Circumstances in which UPSC is to be consulted in making recruitment.
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8	9	10	11	12	13
Does not arise.	Two years	Direct recruitment from the Employment Exchange failing which by transfer from other Departments.	Transfer of experienced telephone operators from other Government departments.	Not applicable	Not applicable.

[No. F. 11/12/62-Admn.]

T. R. CHOPRA,  
Under Secy.

**MINISTRY OF FINANCE****(Department of Economic Affairs)***New Delhi, the 13th June 1963*

**G.S.R. 1041.**—In exercise of the powers conferred by clause (2) of article 77 read with clause (1) of article 299 of the Constitution, the President is pleased to make the following rule, namely:—

The Credit Agreement between the Government of the Republic of India and the De Nationale Investeringsbank (Herstelbank) N.V., relating to the loan of Dutch guilders 65 million (Dutch guilders sixty-five million) shall be executed and authenticated on behalf of the President by the Ambassador of India in the Netherlands.

[No. 15(7)-FCII/63.]

By Order and in the name of the President,

Y. T. SHAH, Jt. Secy.

**(Department of Economic Affairs)***New Delhi, the 18th June 1963*

**G.S.R. 1042.**—The following draft of certain further amendments to the Banking Companies Rules, 1949, which it is proposed to make in exercise of the powers conferred by sub-sections (1) and (2) of section 52 of the Banking Companies Act, 1949 (10 of 1949) and after consultation with the Reserve Bank of India, is published as required by sub-section (3) of the said section for the information of all persons likely to be affected thereby, and notice is hereby given that the said draft will be taken into consideration on or after the 31st December, 1963.

Any objection or suggestion with respect to the said draft should be sent to the Ministry of Finance before the date specified, a copy thereof being endorsed to the Department of Banking Operations, Central Office, Reserve Bank of India, Bombay.

*Draft Amendments*

1. These rules may be called the Banking Companies (Amendment) Rules, 1963

2. In the Banking Companies Rules, 1949,—

(1) in rule 6,

(a) (i) the proviso to sub-rule (1),

(ii) sub-rule (3),

(iii) the words “or of an intimation of deposit under sub-rule (3)” occurring in sub-rule (5); and

(iv) sub-rule (6),

shall be omitted,

(b) the existing sub-rule (4), and sub-rule (5) as so amended, shall be re-numbered as sub-rules (3) and (4) respectively;

(2) in rule 8, sub-rule (1) shall be omitted and in sub-rule (2), the brackets and figures “(2)” shall be omitted;

(3) in rule 10,—

(a) (i) sub-rule (2),

(ii) the word “rupee” and the words, figures and brackets “and with the amounts received, if any, from the London Office of the Reserve Bank under sub-rule (2)”, occurring in sub-rule (3)

shall be omitted; and

(b) sub-rule (3) as so amended shall be renumbered as sub-rule (2);

3 In Form III of the Forms annexed to the said Banking Companies Rules, for the existing item B and the entry relating thereto, the following item shall be substituted, namely:

"B. Minimum amount of cash reserve required to be held under section 18 of the Act—Three per cent of A3."

4. For the existing Form X annexed to the said Banking Companies Rules, the Form specified in the Appendix hereto shall be substituted with effect from the 16th of September, 1964.

#### APPENDIX

#### *The Banking Companies Act, 1949.*

#### FORM X

#### (SECTION 24)

Name of the banking company.....  
Name and designation of the officer submitting the return.....  
.....

Statement of demand and time liabilities and cash, gold and unencumbered approved securities for the month of.....

(To be furnished to the Reserve Bank not later than 15 days after the end of the month to which it relates).

(Rounded off to the nearest thousand)

As at the close of business on

1st Friday (a)	2nd Friday (a)	3rd Friday (a)	4th Friday (a)	5th Friday (a)
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#### A. LIABILITIES IN INDIA

1. Demand liabilities (*Less* borrowings from the Reserve Bank, the State Bank of India, the Refinance Corporation for Industry Ltd., and notified banks\*) .
2. Time Liabilities (*Less* borrowings from the Reserve Bank, the State Bank of India, the Refinance Corporation for Industry Ltd., and notified banks\*) .

3. TOTAL OF A1 and A2 . . .

B. Minimum amount of assets required to be held under section 24 of the Act (25 per cent of A3) . . .

#### C. ASSETS IN INDIA

1. (a) Cash in hand . . . . .
- (b) Balances with the State Bank of India in current account .
- (c) Balances with notified banks\*\* in current account . . . . .
2. Total of (a), (b) and (c) under C1.
3. Balances with the Reserve Bank in current account . . . . .

As at the close of business on					
	1st Friday (a)	2nd Friday (a)	3rd Friday (a)	4th Friday (a)	5th Friday (a)
4. Cash and/or balances required to be maintained under section 18 of the Banking Companies Act†					
Balances required to be maintained under section 42 of the Reserve Bank of India Act††					
5. Excess of the total of C2 and C3 over C4†					
Total of C2 and excess of C3 over C4†† . . . . .					
6. Gold (valued at a price not exceeding current market price) . . . . .					
7. Unencumbered approved securities (valued at a price not exceeding current market price) . . . . .					
8. Deposits with the Reserve Bank under sub-section (2) of section 11 of the Act . . . . .					
(i) Cash . . . . .					
(ii) Unencumbered approved securities (valued at a price not exceeding current market price) . . . . .					
9. TOTAL OF C.5, C.6, C.7, & C.8					

Date .....

Signature .....

(a) Give dates [where Friday is a holiday under the Negotiable Instruments Act, 1881 (26 of 1881), the preceding working day]

\*‘Notified bank’ means any banking institution notified by the Central Government under clause (c) of the Explanation to sub-section (1) of Section 42 of the Reserve Bank of India Act, 1934 (2 of 1934)

\*\*‘Notified bank’ means any other bank which may be notified by the Central Government under section 24 of the Banking Companies Act, 1949.

†For non-scheduled banks only.

††For scheduled bank only.

[No. F.16(1)-BC/63.]

R. K. SESHADRI, Dy. Secy.

## (Department of Revenue)

## MEDICINAL AND TOILET PREPARATIONS

New Delhi, the 22nd June 1963

**G.S.R. 1043.**—In pursuance of sub-rule (3) of rule 60 of the Medicinal and Toilet Preparations (Excise Duties) Rules, 1956 the Central Government hereby declares



that the new medicinal preparation 'BAMBINIC' manufactured by Messrs Ayurvedashram Pharmacy Limited, Ahmednagar shall be included in the category of unrestricted preparations.

[No. 12.]

B. B. GHOSH, Under Secy.

**(Department of Revenue)****CUSTOMS***New Delhi, the 22nd June 1963*

**G.S.R. 1044.**—In exercise of the powers conferred by sub-section (1) of section 11 of the Customs Act, 1962 (52 of 1962), the Central Government being satisfied that, for the maintenance of standards for the classification, grading or marketing of goods in international trade, it is necessary so to do, hereby prohibits with effect from the 15th day of July, 1963, the export of oil of vetiver (khus) or north Indian oil of vetiver and oil of vetiver roots (cultivated) also known as south Indian oil of vetiver produced in India, unless the same have been graded in accordance with the provisions of the Essential Oils Grading and Marking Rules, 1954, as amended from time to time and is accompanied by a certificate of grading from the Agricultural Marketing Adviser to the Government of India or any person specially empowered by him in this behalf:

Provided that nothing in this notification shall apply to any parcel sent by post containing ungraded commercial sample of oil of vetiver or oil of vetiver-root not exceeding 50 Gms. in weight (gross).

[No. 157.]

**G.S.R. 1045.**—In exercise of the powers conferred by section 25 read with sub-section (3) of section 160 of the Customs Act, 1962 (52 of 1962), the Central Government, being satisfied that it is necessary in the public interest so to do, hereby rescinds the notification of the Government of India in the Ministry of Finance (Department of Revenue) No. 286-Customs, dated the 19th November, 1958.

[No. 158.]

**G.S.R. 1046.**—In exercise of the powers conferred by sub-section (1) of section 25 read with sub-section (3) of section 160 of the Customs Act, 1962 (52 of 1962), the Central Government, being satisfied that it is necessary in the public interest so to do, hereby makes the following further amendment in the notification of the Government of India, in the Ministry of Finance (Department of Revenue) No. 82-Customs, dated the 6th August, 1960, namely:—

In the said notification, in condition (1), after clause (d), the following shall be inserted, namely:—

- “(e) The Iron and Steel Controller in the case of firms engaged in the manufacture of iron or steel;
- (f) The Coal Controller on the Deputy Coal Controller (Production), in the case of firms which are classified as falling in the private sector of the coal industry;
- (g) The Chairman or the Deputy General Manager (Technical and Works), Neyveli Lignite Corporation in the case of the Neyveli Lignite Corporation;
- (h) The Chairman or the Deputy General Manager, National Coal Development Corporation in the case of the National Coal Development Corporation; and
- (i) The Member, Central Water and Power Commission in the case of irrigation and power projects.”

[No. 163.]

**G.S.R. 1047.**—In exercise of the powers conferred by sub-section (1) of section 25 read with sub-section (3) of section 160 of the Customs Act, 1962 (52 of 1962), the Central Government, being satisfied that it is necessary in the public interest so to do, hereby rescinds the notification of the Government of India in the Ministry of Finance (Revenue Division) No. 52-Customs dated the 15th October, 1949.

[No. 164/F. No. 5/59/62-Cus. I.]

**G.S.R. 1048.**—In exercise of the powers conferred by sub-section (1) of section 4 of the Customs Act, 1962 (52 of 1962), the Central Government hereby makes the following amendment to the notification of the Government of India in the Ministry of Finance (Department of Revenue) No. G.S.R. 213 dated the 1st February, 1963, namely:—

In the Table below the said notification—

- (1) for the entry in column (1), against item (iii), the following entry shall be substituted, namely:—

“Port of Calcutta, Dum Dum airport, the area under the jurisdiction of Calcutta, Howrah and South Suburban Corporations, so much of the Hooghly river as is downstream of the northern limit of Calcutta port, and all lands as are within six miles of the high water mark at spring tide on either side of the river”.

- (2) in the entry in column (1) against item (v), after the words “Madras Corporation”, the words “and Saidapet taluk” shall be inserted.

[No. 166 ]

**G.S.R. 1049.**—In exercise of the powers conferred by sub-section (1) of section 4 of the Customs Act, 1962 (52 of 1962), the Central Government hereby makes the following amendments in the notification of the Government of India in the Ministry of Finance (Department of Revenue) No. 88-Customs, dated the 2nd March 1963, namely:—

In the said notification, clause (a) shall be omitted.

[No. 167.]

**G.S.R. 1050.**—In exercise of the powers conferred by sub-section (1) of section 25 of the Customs Act, 1962 (52 of 1962), the Central Government, being satisfied that it is necessary in the public interest so to do, hereby exempts plastic contraceptives falling under Item No. 87 of the First Schedule to the Indian Tariff Act, 1934 (32 of 1934), when imported into India from the whole of the duty of customs leviable thereon.

This notification shall cease to be in force on the 1st day of January, 1964.

[No. 168/F.No. 5(1)/35-62-Cus.I.]

S. VENKATESAN, Dy. Secy

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(Department of Revenue)

CUSTOMS

New Delhi, the 15th June 1963

**G.S.R. 1051.**—In exercise of the powers conferred by sub-section (1) of section 75 of the Customs Act, 1962 (52 of 1962), as in force in India, the Central Government hereby makes the following further amendment in the Notification of the Government of India, in the Ministry of Finance (Department of Revenue)

No GSR 575 (55/F No 34/86/60-Cus IV), dated the 28th May, 1960, namely.—

*Amendment*

In the Schedule to the said notification after the existing item at Serial No 186 and entries relating thereto, the following shall be added, namely

“187 Unfinished Clinical Thermometers”

[No 155/F No 113/1/63-DBK]

*New Delhi, the 22nd June 1963*

**G.S.R. 1052.**—In exercise of the powers conferred by sub-section (1) of section 75 of the Customs Act, 1962 (52 of 1962), as in force in India the Central Government hereby makes the following further amendment in the Notification of the Government of India in the Ministry of Finance (Department of Revenue) No GSR-575, (55/F No 34/86/60 Cus IV) dated the 28th May 1960 namely —

*Amendment*

In the Schedule to the said notification, for the existing item at Serial No 87 and entries relating thereto, the following shall be substituted

‘87 (A) Tea Chests made of 3 plywood, including fittings therefor shipped in CKD condition

- (i) plywood panels for tea chests
- (ii) fittings of tea chests made of tin plate
- (iii) wire nails tenter hooks and rivets
- (iv) tissue paper for wrapping, battens or lining aluminium foil
- (v) aluminium foil

(B) Tea Chests complete (filled)

[No 160/F No 34(1)/16/62-Cus IV]

**CUSTOMS AND CENTRAL EXCISE**

*New Delhi the 15th June 1963*

**G.S.R. 1053.**—In exercise of the powers conferred by sub-section (2) of section 75 of the Customs Act, 1962 (52 of 1962) and section 37 of the Central Excises and Salt Act 1944 (1 of 1944), as in force in India the Central Government hereby makes the following further amendment in the Customs and Central Excise Duties Export Drawback (General) Rules, 1960

*Amendment*

These rules may be called the Customs and Central Excise Duties Export Drawback (General) Amendment Rules, 1963

2 In the Second Schedule to the Customs and Central Excise Duties Export Drawback (General) Rules, 1960 after the existing item at Serial No 146, the following shall be added namely —

“147 Unfinished Clinical Thermometers”

[No 61/F No 113/1/63-DBK]

*New Delhi, the 22nd June 1963*

**G.S.R. 1054** —In exercise of the powers conferred by sub-section (2) of section 75 of the Customs Act 1962 (52 of 1962) and section 37 of the Central Excises and Salt Act 1944 (1 of 1944), as in force in India, the Central Government hereby makes the following further amendment in the Customs and Central Excise Duties Export Drawback (General) Rules, 1960

*Amendment*

These rules may be called the Customs and Central Excise Duties Export Drawback (General) Amendment Rules, 1963.

2 In the First Schedule to the Customs and Central Excise Duties Export Drawback (General) Rules, 1960 for the existing item at Serial No 38 and entries relating thereto, the following shall be substituted, namely:—

**"38 Oiled Coir Ropes Size**

- |   |  |
|---|--|
| (i) $\frac{3}{4}$ " to $1\frac{3}{4}$ "   | Twelve rupees and one naya paisa per metric ton        |
| (ii) 2" to $2\frac{1}{4}$ "               | Eight rupees and twenty-five naye paise for metric ton |
| (iii) $\frac{5}{8}$ " to $4\frac{1}{2}$ " | Six rupees and fifty naye paise per metric ton         |
| (iv) 5" to 8"                             | Five rupees and forty naye paise per metric ton        |

The above rates shall take effect from 20th April, 1963.

[No 63/F No 1/30/63-Dbk ]

**G.S.R. 1055.**—In exercise of the powers conferred by sub-section (2) of section 75 of the Customs Act, 1962 (52 of 1962) and section 37 of the Central Excises and Salt Act, 1944 (1 of 1944), as in force in India, the Central Government hereby makes the following further amendment in the Customs and Central Excise Duties Export Drawback (General) Rules, 1960

**Amendment**

These rules may be called the Customs and Central Excise Duties Export Drawback (General) Amendment Rules, 1963

2 In the First Schedule to the Customs and Central Excise Duties Export Drawback (General) Rules, 1960 for the existing item at Serial No 28 and the entries relating thereto, the following shall be substituted, namely:—

- |  |   |
|--|---|
| "28. Plastic Sequins, and articles incorporating plastic sequins | Nine rupees and eighty naye paise per Kg. of Plastic Sequins. |
|--|---|

The above rate should take effect from 20th April, 1963."

[No. 67/F.No 1/37/63-Dbk ]

**G.S.R. 1056.**—In exercise of the powers conferred by sub-section (2) of section 75 of the Customs Act, 1962 (52 of 1962) and section 37 of the Central Excises and Salt Act, 1944 (1 of 1944), as in force in India, the Central Government hereby makes the following further amendment in the Customs and Central Excise Duties Export Drawback (General) Rules, 1960.

**Amendment**

These rules may be called the Customs and Central Excise Duties Export Drawback (General) Amendment Rules, 1963.

2. In the First Schedule to the Customs and Central Excise Duties Export Drawback (General) Rules, 1960 for the existing item at Serial No. 30 and the entries relating thereto, the following shall be substituted, namely:—

**"30. (A) Complete Tea Chests (filled), made of plywood panels (3 ply)**

- |                                 |  |
|---------------------------------|--|
| (i) tea chests of 19"×19"×24"   | Fifty-six rupees per one hundred sets of six panels each     |
| (ii) tea chests of 19"×19"×22"  | Fifty-three rupees per one hundred sets of six panels each   |
| (iii) tea chests of 18"×18"×20" | Forty-six rupees per one hundred sets of six panels each.    |
| (iv) tea chests of 16"×16"×18"  | Thirty-seven rupees per one hundred sets of six panels each  |
| (v) tea chests of 16"×16"×20"   | Forty rupees per one hundred sets of six panels each         |
| (vi) tea chests of 17"×17"×17"  | Thirty-eight rupees per one hundred sets of six panels each. |

## (B) Plywood panels (3 ply) and fittings of tea chests.

(i) Plywood panels for tea chests of 19"×19"×24" size.	Forty-nine rupees and twenty-seven naye paise per one hundred sets of six pieces each.
(ii) Plywood panels for tea chests of 19"×19"×20"	Forty-six rupees and thirty naye paise per one hundred sets of six pieces each.
(iii) Plywood panels for tea chests of 18"×18"×20"	Forty rupees and forty naye paise per one hundred sets of six pieces each.
(iv) Plywood panels for tea chests of 16"×16"×18"	Thirty-two rupees and fifteen naye paise per one hundred sets of six pieces each.
(v) Plywood panels for tea chests of 16"×16"×20"	Thirty-four rupees and sixty-five naye paise per one hundred sets of six pieces each.
(vi) Plywood panels for tea chests of 17"×17"×17"	Thirty-three rupees and fifty-five naye paise per one hundred sets of six pieces each.
(vii) Plywood panels for tea chests of size not specified in this item.	Thirty rupees per one hundred square metres.
(viii) Metal fittings of tea chests of tinplate.	Two hundred and seventy-two rupees and thirteen naye paise per metric ton of tinplate content.
(ix) Wire nails, tenter hooks and rivets.	Eighty-three rupees and thirty-one naye paise per metric ton.
(x) Tissue paper for wrapping battens or for lining aluminium foils.	Thirty-five rupees per quintal.
(xi) Aluminium foil.	Sixty rupees per quintal.

The above rates shall be deemed to take effect from the 15th June, 1962.

[No. 68/F.No. 34(1)/16/62-Cus. IV.]

J. BANERJEE, Dy. Secy.

(Department of Revenue)

CENTRAL EXCISES

*New Delhi, the 22nd June 1963*

**G.S.R. 1057.**—In exercise of the powers conferred by section 37 of the Central Excises and Salt Act, 1944 (I of 1944), the Central Government hereby makes the following rules further to amend the Central Excise Rules, 1944, namely:—

1. These rules may be called the Central Excise (Tenth Amendment) Rules, 1963.

2. In the Central Excise Rules, 1944, in Appendix I, in Form A.R.-1 (Central Excise Series No. 57),—

- (i) for the existing column 7 and the heading 'value' the following shall be substituted, namely:—

Retl Value			Invoice Value			Tariff Value		
Rate	Amount		Rate	Amount		Rate	Amount	
	Rs.	nP.		Rs.	nP.		Rs.	nP.
	7(a)			7(b)			7(c)	

- (ii) the existing Note below the tabular form shall be numbered as Note (i) and after Note (i) as so numbered, the following shall be inserted, namely:—
- “(H) ‘Real value’ is the value referred to in section 4 of the Central Excises and Salt Act, 1944.
- (iii) ‘Invoice value’ is the value specified by the manufacturer or producer to the customer. This value should be given in all cases.
- (iv) ‘Tariff value’ is the value fixed by the Central Government under section 3 of the Central Excises and Salt Act, 1944. This column should be filled in wherever applicable.”

[No. 96/63.]

**G.S.R. 1058.**—In exercise of the powers conferred by sub-rule (1) of rule 8 of the Central Excise Rules, 1944, the Central Government hereby exempts Iron or Steel products falling under Item No. 26AA of the First Schedule to the Central Excises and Salt Act, 1944 (1 of 1944), and specified in column (2) of the Table below, if made from old and used scrap, or fresh unused re-rollable scrap on which the appropriate amount of duty has already been paid, from so much of the duty of excise leviable on such products as is specified in column (3) of the said Table.

TABLE

Serial No.	Description	Amount
1	2	3
1.	Iron or Steel products manufactured—	Per metric tonne.
	(i) on or after the 1st day of October, 1962 but before the 1st day of June, 1963 . . . . .	Rs. 18.50
	(ii) on or after the 1st day of June, 1963 . . . . .	Rs. 22.00

2. Nothing in this notification shall apply to the products manufactured out of scrap in respect of which exemption from payment of excise duty may be claimed under the notification of the Government of India in the Ministry of Finance (Department of Revenue) No. 89/62-Central Excises, dated the 10th May, 1962.

[No. 97/63.]

## ERRATUM

*New Delhi, the 22nd June 1963*

**G.S.R. 1059.**—In the notification of the Government of India, Ministry of Finance (Department of Revenue) No. G.S.R. 921, dated the 1st June, 1963, published in the Gazette of India, Part II, Section 3, Sub-section (i), dated the 1st June, 1963 at page 1034, in the fifth line, for "used as fuel, in railway locomotive engines, or", read "used as fuel in railway locomotive engines or".

[No. 94/63.]

## ERRATUM

**G.S.R. 1060.**—In the notification of the Government of India, Ministry of Finance (Department of Revenue), No. G.S.R. 922, dated the 1st June, 1963, published in the Gazette of India, Part II, Section 3, Sub-section (i), dated the 1st June, 1963 at page 1034 in the seventh line, for "used as fuel, in railway locomotive engines, or", read "used as fuel in railway locomotive engines or".

[No. 95/63.]

L. M. KAUL, Dy. Secy.

## MINISTRY OF LABOUR AND EMPLOYMENT

*New Delhi, the 15th June 1963*

**G.S.R. 1061.**—In exercise of the powers conferred by section 3, read with section 7 of the Coal Mines Provident Fund and Bonus Schemes Act, 1948 (46 of 1948), the Central Government hereby makes the following Scheme further to amend the Coal Mines Provident Fund Scheme, published with the notification of the Government of India in the late Ministry of Labour No. PF 15(5)/48 dated the 11th December, 1948, namely:—

1. This scheme may be called the Coal Mines Provident Fund (Fifth Amendment) Scheme, 1963.

2. In the Coal Mines Provident Fund Scheme, hereinafter referred to as the said scheme, in paragraph 62,

(a) after sub-paragraph (4), the following sub-paragraph shall be inserted, namely:—

"(4A) where the nomination is wholly or partly in favour of a minor, the member shall for the purposes of the said Scheme appoint a major member of his family as defined in clause (h) of paragraph 2, to be the guardian of the minor nominee(s) in the event of the member predeceasing the nominee and the guardian as appointed:

Provided that where there is no major person in the family, the member may at his discretion appoint any other person to be a guardian of the minor nominee(s)."

(b) In sub-paragraph (5)(i), after the words, brackets and figure "a nomination made under sub-paragraph (1)", the following words, brackets and figures shall be inserted, namely:—

"or the appointment of a guardian made under sub-paragraph (4A),"

(ii) after the words "in form 'M'", the following words shall be inserted, namely:—

"or in form 'MM', as the case may be,"

3. In paragraph 63 of the said Scheme,

(a) for clause (b) of sub-paragraph (1), the following clause shall be substituted, namely:—

“(b) on being rendered permanently and totally incapacitated for work in the coalfields due to bodily or mental infirmity, notwithstanding the date on which he ceases to be employed”

(b) In sub-paragraph (2)(i), the word “if” occurring after the word “Fund” shall be omitted.

(ii) In clause (a), the word “if” shall be inserted at the beginning of the clause.

(iii) for clause (b), the following clause shall be substituted, namely:—

“(b) after expiry of a period of six months from the date of termination of his service, if in the meanwhile he does not inform the Commissioner in writing that he has been reemployed in any coal mine to which the said Scheme or the Scheme published with the notification of the Government of India in the late Ministry of Labour No. SRO 657 dated the 12th March, 1956 or the Scheme published with the notification of the Government of India in the Ministry of Labour and Employment No. SO 32 dated the 11th February, 1958, apply.”

(iv) in clause (c) the word “if” shall be inserted at the beginning of the clause.

4. In paragraph 64 of the said Scheme, for the proviso to clause (iii), the following clause shall be substituted namely:—

“Provided that officers appointed by the Central Government as Assistant Commissioners of the Coal Mines Provident Fund under sub-paragraph (3) of paragraph 24 of the said Scheme, where such amount does not exceed rupees seven hundred fifty or the Commissioner where the amount exceeds rupees seven hundred fifty but does not exceed rupees one thousand or the Chairman of the Board where it exceeds rupees one thousand but does not exceed rupees two thousand may, after giving notices to such persons and after making such summary enquiry as he thinks fit, make payment of the amount to the person who appears to him to be legally entitled thereto and such payment shall be a full discharge from all liability in respect of the amount paid; but in such a case the Assistant Commissioner or the Commissioner or the Chairman, as the case may be, may, before making the payment, obtain from the person to whom the payment is made such security as he considers necessary.”

5. In paragraph 66 of the said Scheme,

(a) for sub-paragraph (3), the following sub-paragraph shall be substituted, namely:—

“(3) If the person to whom any amount is to be paid under this Scheme is a minor for whose estate a guardian under Guardians and Wards Act, 1890 (8 of 1890) has been appointed, the payment shall be made to such a guardian. Where no such guardian has been appointed, the payment shall be made to the guardian appointed under sub-paragraph (4A) of paragraph 62, if any. Where no guardian has been appointed either under the Guardians and Wards Act, 1890 (8 of 1890) or under sub-paragraph (4A) of paragraph 62 of this Scheme, the payment shall be made to the natural guardian and in the absence of a natural guardian, to such person as the Assistant Commissioner, where the amount does not exceed rupees seven hundred fifty or the Commissioner where the amount exceeds rupees seven hundred fifty but does not exceed rupees one thousand or the Chairman of the Board in any other case, considers to be the proper person representing the minor.”

(b) After sub-paragraph (3), the following sub-paragraphs shall be inserted, namely:—

“(3A) If the person to whom any amount is to be paid under this Scheme is a lunatic for whose estate a manager under the Indian Lunacy Act, 1912 (4 of 1912) has been appointed, the payment shall be made to such Manager. If no such manager has been appointed the payment shall be made to the natural guardian of the lunatic and in the absence of



any such natural guardian, to such person as the Assistant Commissioner, where the amount does not exceed rupees seven hundred fifty or the Commissioner where the amount exceeds rupees seven hundred fifty but does not exceed rupees one thousand or the Chairman of the Board in any other case considers to be the proper person representing the lunatic.

(3B) The receipt of the person to whom any payment is made under sub-paragraphs (3) and (3A) shall be sufficient discharge of the liability of the Fund in respect of the amount paid to him."

6. In form A annexed to the said Scheme, after the Table to the Declaration, the following direction and Table shall be inserted, namely:—

"I hereby direct that, in the event of my death during the minority of my above-named nominee(s) the person whose particulars are given below shall be deemed to be the guardian of the minor nominee(s) for the purposes of the Coal Mines Provident Fund Scheme:—

Name and address of the guardian.	Age of the guardian	Relationship of the guardian with the member
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7. After form 'M' annexed to the said Scheme the following form shall be inserted, namely:—

**FORM MM**  
**COAL MINES PROVIDENT FUND**

I.....hereby [cancel the original appointment of guardian made by me in favour of Shri/Shrimati.....and]\* direct that in the event of my death during the minority of my nominee..... the person whose particulars are given below shall be deemed to be the guardian of my above named nominee for the purposes of the Coal Mines Provident Fund Scheme:—

Name and address of the guardian.	Age of the guardian	Relationship of the guardian with the member
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Date.....

Signature/L.T.I. of the member.  
Account No.

Certified that the above declaration has been signed by.....  
employed in....., before me.

Regd. No.  
of coal mine.

Signature of Manager.

\*Delete when this form is used for appointing a guardian for the first time by an old member.

[No. 2(260)62-PFI/I.]

**G.S.R. 1062.**—In exercise of the powers conferred by section 3, read with section 7 of the Coal Mines Provident Fund and Bonus Schemes Act, 1948 (46 of 1948), the Central Government hereby makes the following Scheme further to amend the Rajasthan Coal Mines Provident Fund Scheme published with the notification of the Government of India in the Ministry of Labour and Employment No. S.O. 32 dated the 11th February, 1958, namely:—

1. This Scheme may be called the Rajasthan Coal Mines Provident Fund (Fifth Amendment) Scheme, 1963.

2. In the Rajasthan Coal Mines Provident Fund Scheme, hereinafter referred to as the said Scheme;  
in paragraph 39,

(a) after sub-paragraph (4), the following sub-paragraph shall be inserted, namely:—

"(4A) where the nomination is wholly or partly in favour of a minor, the member shall for the purposes of the said Scheme appoint a major

member of his family as defined in clause (g) of paragraph 2 to be the guardian of the minor nominee(s) in the event of the member predeceasing the nominee and the guardian as appointed:

Provided that where there is no major person in the family, the member may at his discretion appoint any other person to be the guardian of the minor nominee(s)."

- (b) In sub-paragraph (5)(i), after the words, brackets and figure "A nomination made under sub-paragraph (1)", the following words, brackets and figures shall be inserted, namely:—

"or the appointment of a guardian under sub-paragraph (4A)",

- (ii) after the words "In form 'M'", the following words shall be inserted, namely:—

"or in form 'MM', as the case may be,"

3. In paragraph 40 of the said Scheme,

- (a) for clause (b) of sub-paragraph (1) the following clause shall be substituted, namely:—

"(b) on being rendered permanently and totally incapacitated for work in the coalfields due to bodily or mental infirmity, notwithstanding the date on which he ceases to be employed"

- (b) In sub-paragraph (2)(i), the word "if" occurring after the word "Fund" shall be omitted.

- (ii) In clause (a), the word "if" shall be inserted at the beginning of the clause.

- (iii) for clause (b), the following clause shall be substituted, namely:—

"(b) after expiry of a period of six months from the date of termination of his service, if in the meanwhile he does not inform the Commissioner in writing that he has been re-employed in any coal mine to which the said Scheme or the Schemes published with the notifications of the Government of India in the Ministry of Labour and Employment No. PF 15(3)/48 and SRO 657 dated the 11th December, 1948 and 12th March, 1956 respectively apply".

- (iv) in clause (c) the word "if" shall be inserted at the beginning of the clause.

4. In paragraph 41 of the said Scheme, for the proviso to clause (iii), the following proviso shall be substituted, namely:—

“Provided that officers appointed by the Central Government as Assistant Commissioners of the Coal Mines Provident Fund under sub-paragraph (3) of paragraph 24 of the Scheme published with the notification of the Government of India in the late Ministry of Labour No. PF-15(5)/48 dated the 11th December, 1948, where such amount does not exceed rupees seven hundred and fifty or the Commissioner where the amount exceeds rupees seven hundred fifty but does not exceed rupees one thousand or the Chairman of the Board where it exceeds rupees one thousand but does not exceed rupees two thousand may, after giving notices to such persons and after making such summary enquiry as he thinks fit, make payment of the amount to the person who appears to him to be legally entitled thereto and such payment shall be a full discharge from all liability in respect of the amount paid; but in such a case the Assistant Commissioner or the Commissioner or the Chairman, as the case may be, may before making the payment obtain from the person to whom the payment is made such security as he considers necessary.”

5. In paragraph 43 of the said Scheme, (a) for sub-paragraph (3), the following paragraph shall be substituted, namely:—

“(3) If the person to whom any amount is to be paid under this Scheme is a minor for whose estate a guardian under Guardians and Wards Act, 1890 (8 of 1890) has been appointed, the payment shall be made to such guardian. Where no such guardian has been appointed the payment shall be made to the guardian appointed under sub-paragraph (4A) of paragraph 39, if any. Where no guardian has been appointed either under the Guardians and Wards Act, 1890 (8 of 1890) or under sub-paragraph (4A) of paragraph 39 of this Scheme, the payment shall be made to the natural guardian and in the absence of a natural guardian to such person as the Assistant Commissioner where the amount does not exceed rupees seven hundred fifty or the Commissioner where the amount exceeds rupees seven hundred fifty but does not exceed rupees one thousand and the Chairman of the Board in any other case considers to be the proper person representing the minor.”

(b) After sub-paragraph (3), the following sub-paragraphs shall be inserted, namely:—

“(3A) If the person to whom any amount is to be paid under this Scheme is a lunatic for whose estate a manager under the Indian Lunacy Act, 1912 (4 of 1912) has been appointed, the payment shall be made to such manager. If no such manager has been appointed the payment shall be made to the natural guardian of the lunatic and in the absence of any such natural guardian to such person as the Assistant Commissioner, where the amount does not exceed rupees seven hundred fifty or the Commissioner where the amount exceeds rupees seven hundred fifty but does not exceed rupees one thousand or the Chairman of the Board in any other case considers to be the proper person representing the lunatic.

(3B) The receipt of the person to whom any payment is made under sub-paragraphs (3) or (3A) shall be sufficient discharge of the liability of the Fund in respect of the amount paid to him.”

6. In form A annexed to the said Scheme, after the Table to the Declaration, and the Table the following direction shall be inserted, namely:—

“I hereby direct that, in the event of my death during the minority of my above-named nominee, the person whose particulars are given below shall be deemed to be the guardian of the minor nominee for the purposes of the Rajasthan Coal Mines Provident Fund Scheme:—

Name and address of the guardian.	Age of the guardian	Relationship of the guardian with the member
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7. After form M annexed to the said Scheme the following form shall be inserted, namely:—

“Form MM”

#### FORM MM

#### COAL MINES PROVIDENT FUND

I.....hereby\* [cancel the original appointment of guardian made by me in favour of Sri/Smt.....and] direct that in the event of my death during the minority of my nominee..... the person whose particulars are given below shall be deemed to be the guardian of my above named nominee for the purposes of the Coal Mines Provident Fund Scheme:—

Name and address of the guardian	Age of the guardian	Relationship of the guardian with the member
----------------------------------	---------------------	--

Date.....

Signature/L.T.I. of the member

Account No.

Certified that the above declaration has been signed by ..... employed in..... before me.

Regd. No.  
of coal mine.

Signature of Manager.

\*Delete when this form is used for appointing a guardian for the first time by an old member.

[No. 2(260)62-PF1/III.]

P. D. GAIHA, Under Secy.

**MINISTRY OF LABOUR & EMPLOYMENT**

*New Delhi, the 6th June, 1963*

**G.S.R. 1063.**—In exercise of the powers conferred by section 3 read with section 7 of the Coal Mines Provident Fund and Bonus Schemes Act, 1948 (46 of 1948), the Central Government hereby makes the following Scheme further to amend the Coal Mines Provident Fund Scheme, published with the notification of the Government of India in the late Ministry of Labour No. PF. 15(5)/48, dated the 11th December, 1948, namely:—

1. This Scheme may be called the Coal Mines Provident Fund (Fourth Amendment) Scheme, 1963.

2. In the Coal Mines Provident Fund Scheme, hereinafter referred to as the said Scheme, after paragraph 27, the following paragraph shall be inserted, namely:—

*"27A. Voluntary contribution by members—*

(1) A member may, if he so desires, contribute in excess of the compulsory contribution prescribed in Table V under sub-paragraph (1) of paragraph 27, at a rate not exceeding 8 per cent of total emoluments rounded off to the nearest rupee.

(2) A member desirous of making voluntary contribution under sub-paragraph (1) shall apply to the Commissioner in such form and manner as may be prescribed by him.

(3) The rate of voluntary contribution may be varied by a member at his own discretion within the maximum prescribed in subparagraph (1) not more than once in a currency year:

Provided that an intimation of the variation in the rate of voluntary contribution shall be sent by the member to the Commissioner in such form and manner as may be prescribed him.

(4) The voluntary contribution applied for under sub-paragraph (2) or the variation thereof under sub-paragraph (3), as the case may be, shall take effect from the beginning of a prospective wage period as may be directed in each case by the Commissioner.

(5) The employer shall not be required to add any matching contribution on the voluntary contribution prescribed in sub-paragraph (1) by members in excess of their compulsory contribution prescribed in Table V under sub-paragraph (1) of paragraph 27".

3. In paragraph 33A of the said Scheme, for sub-paragraph (4), the following sub-paragraph shall be substituted, namely:—

*"(4) For all payments made by an employer under sub-paragraph (3) upto and for the month of May 1963 a monthly abstract in Form 'P' annexed hereto and in Form 'P' (revised) annexed hereto in respect of all payments made thereafter shall be sent by an employer in duplicate separately in respect of each colliery to the Commissioner by registered post or by a messenger on or before the 15th day of each month following the month to which such payments relate together with the appropriate cheques, drafts, receipted pay-in-slips or original receipted challans in token of the employer having made such payments."*

4. In paragraph 33B of the said Scheme,

(1) in clause (iv) of the Table under sub-paragraph (1), after the words "Provident Fund Contribution", the following words, figures and brackets shall be inserted, namely:—

*"not including the voluntary contribution by members in excess of their compulsory contributions prescribed in Table V under subparagraph (1) of paragraph 27".*

(2) in sub-paragraph (2), for the word, figure and brackets "clause (ii)", the following word, figure and brackets shall be substituted, namely:—

*"Clause (iv)".*

5. In paragraph 37 of the said Scheme, after clause (b), the following proviso shall be inserted, namely:—

“Provided that in the case of a member permitted by the Commissioner in terms of paragraph 27A to contribute voluntarily in excess of his compulsory contribution, the contribution card shall be opened in Form D(V) or E(V) annexed hereto as the case may be, with effect from the wage period from which the member is permitted to make voluntary contribution”.

6. In paragraph 37A of the said Scheme,

(1) after the letters, words and brackets “D (Revised) or E (Revised)” the following words, letters and brackets shall be inserted, namely:—

“or D(V) or E(V)”.

(2) after the existing proviso, the following further proviso shall be inserted, namely:—

“Provided further that in the case of a member permitted to make voluntary contribution under paragraph 27A the member's contribution and his employer's contribution shall be recorded separately by the employer in the member's contribution card in Form D(V) or E(V), as the case may be”.

7. In the proviso to paragraph 41 of the said Scheme, after the word and figures “April, 1953”, the following words, letters and brackets shall be inserted, namely:—

“and in Form D(V) or E(V) annexed hereto in the case of members permitted to make voluntary contribution under paragraph 27A”.

8. The existing paragraph 42 of the said Scheme shall be numbered as sub-paragraph (1) thereof and the following sub-paragraph (2) shall be inserted after sub-paragraph (1) so numbered, namely:—

“(2) Contribution cards in Form D(V) and E(V) in respect of members having voluntary contribution under paragraph 27A shall be submitted with a separate statement in duplicate in Form I(V) annexed hereto within six weeks from the date of expiration of the period of currency of those contribution cards. In the case of a member who starts making voluntary contribution some time after the beginning of a currency period, his contribution card in Form D (Revised) or E (Revised) relating to that part of the currency period in which the member had no voluntary contribution and his contribution card in Form D(V) or E(V) for that part of the currency period in which the member made voluntary contribution shall be linked together by carrying forward the contribution recorded in Form D (Revised) or E (Revised) to the contribution card in Form D(V) or E(V). Such linked up contribution cards shall be regarded as contribution cards in Form D(V) or E(V) as the case may be, for submission to the Commissioner”.

9 In paragraph 45 of the said Scheme,

(1) In the second proviso,—

(i) after the words, letters and brackets “Open for him a new contribution card in Form D (Revised) or E (Revised) as the case may be and” the following words, letters, figures and brackets shall be inserted, namely:—

“in the case of a member who declares in Form Q that he was making voluntary contribution at the colliery where previously employed, under paragraph 27A, in Form D(V) or E(V) as the case may be The employer shall then”.

(ii) for the words “the total of the member's and the employer's contributions” occurring after the words “or total emoluments, as the case may be and” the following words shall be substituted, namely:—

“the member's contribution and employer's contribution either separately or jointly, as the case may be”.

(2) In the third proviso, after the words "Provided also that where such person makes a false declaration in Form Q suppressing the fact of his previous membership of the Fund", the following words shall be inserted, namely:—

"or his voluntary contribution".

10. After Form D (Revised) of the said Scheme, the following Form shall be inserted, namely:—

"Form D(V)".

11. After Form E (Revised) of the said Scheme, the following Form shall be inserted, namely:—

"Form E(V)".

12. After Form I (Revised)—Outer, of the said Scheme, the following Form shall be inserted, namely:—

"Form I(V) Outer".

13. After Form I (Revised)—Inner, of the said Scheme, the following Form shall be inserted, namely:

"Form I(V)—Inner".

14. After Form P of the said Scheme, the following Form shall be inserted, namely:—

"Form P (Revised)".

15. In Form Q of the said Scheme,

(1) after the words "and that am/am not\* a member of the Coal Mines Provident Fund", the following words shall be added, namely:—

"@ In the aforesaid coal mine I was making voluntary contribution at the rate of ..... per cent".

(2) after the foot-note, the following foot-note shall be added, namely:—

"@ Delete if the member was not a voluntary contributor".

## FORM D (V)\*

## COAL MINES PROVIDENT FUND

Contribution card for employees other than monthly rated employees for the period from.....to.....

1. Account No. ....
2. Name (in block capitals).....
3. Father's/husband's name .....
4. Signature or left thumb impression of the member .....
5. Signature of person preparing card .....
6. Signature of Manager of coal mine .....
7. Registered No. of coal mine .....
8. Name and address of coal mine .....

## SUMMARY OF CONTRIBUTION

Period		Contributions		Under Charge Over Charge		(+) (-)	
		Member's share	Employer's share	Member's share	Employer's share		
From	To	Rs.	n.P.	Rs.	n.P.	Rs.	n.P.
1st week	13th week						
14th week	26th week						
27th week	39th week						
40th week	52nd/ 53rd week						

## RATE OF VOLUNTARY CONTRIBUTION

		Member's share	per cent. Employer's share
		Rs.	n.P.

Compulsory contribution brought forward from form 'D (revised)' . . .

Contributions in this card . . .

Add on account of under charge . . .

Deduct on account of over charge . . .

Net amount of contribution\* . . .

\* To agree with the amount shown in Statement 'I (V)' for credit to the Member's Fund Account.

Signature of Employer's clerk  
Checked and found correct.  
Signature of clerk in C.M.P. Office.



Week	Total emolu- ments earned	Contributions		Under Charge Over Charge		Week	Total emolu- ments earned	Contribution		Under Charge Over Charge	
		Member's share	Employer's share	Member's share	Employer's share			Member's share	Employer's share	Member's share	Employer's share
	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.		Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.
1st						14th					
2nd						15th					
3rd						16th					
4th						17th					
5th						18th					
6th						19th					
7th						20th					
8th						21st					
9th						22nd					
10th						23rd					
11th						24th					
12th						25th					
13th						26th					
Total						Total					

Week	Total emolu- ments earned	Contributions		Under Charge Over Charge		Week	Total emolu- ments earned	Contributions		Under Charge Over Charge	
		Member's share	Employer's share	Member's share	Employer's share			Member's share	Employer's share	Member's share	Employer's share
	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.		Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.
27th						40th					
28th						41st					
29th						42nd					
30th						43rd					
31st						44th					
32nd						45th					
33rd						46th					
34th						47th					
35th						48th					
36th						49th					
37th						50th					
38th						51st					
39th						52nd					
						53rd					
Total						Total					

FORM 'E'V  
COAL MINES PROVIDENT FUND

Contribution card for monthly rates employees for the period from.....to.....

1. Account No.....
2. Name (in Block Capitals).....
3. Father's/husband's name .....
4. Signature or left thumb impression of member .....
5. Signature of person preparing the card .....
6. Signature of Manager of coal mine.....
7. Registered No. of Coal Mine .....
8. Name and address of coal mine.....

Month	Total emoluments earned	Contributions.		Under charges (+) Over charges (—)	
		Member's contribution.	Employer's contribution.	Member's contribution.	Employer's contribution.
1st . . .		Rs.      n.P.	Rs.      n.P.	Rs.      n.P.	Rs.      n.P.
2nd . . .					
3rd . . .					
4th . . .					
5th . . .					
6th . . .					
TOTAL C.O. .					

FORM 'I(V)'  
OUTER

## COAL MINES PROVIDENT FUND

*Return of contribution cards for voluntary contributors sent to the Commissioner on completion of contribution.*

Year.....19

To.....19

(To be sent in Duplicate)

Name and address of coal mine-

Registered No. of coal mine

Sl. No.	Account No.	Name of member (in block capitals)	Father's or husband's name (in the case of married women)	Member's contribution  Rs. nP.	Employer's contribution  Rs. nP.	Remarks	Space for use in commissioner's Office

Month	Total emolu- ments earned	Contributions		Under charges (+) Over charges (—)	
		Member's contribu- tion	Employer's contribu- tion	Member's contribu- tion	Employer's contribu- tion.
	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.
Brought forward . . . .					
7th . . . . .					
8th . . . . .					
9th . . . . .					
10th . . . . .					
11th . . . . .					
12th . . . . .					
TOTAL . . . . .					

Rate of voluntary contribution ————— per cent.

	Member's con- tribution Rs. nP.	Employer's con- tribution Rs. nP.
Compulsory contribution brought forward from 'E (Revised)' .		
Contributions in this card . . . . .		
Add—on account of under charge . . . . .		
Deduct—on account of over charge . . . . .		
Net amount of contribution* . . . . .		

\*To agree with the amount shown in the Statement 'I' for credit to Member's Fund Account.

*Signature of employer's clerk.*

*Checked and found Correct.*

*Signature of Clerk in] C.M.P.F. Office.*

## FORM I(V)

## INNER

Sl. No.	Account No.	Name of member (in block capitals)	Father's or Husband's name (in the case of married women)	Member's contribution Rs. nP.	Employer's contribution Rs. nP.	Remarks	Space for use in Commissioner's Office

Sl. No.	Account No.	Name of member (in block capitals)	Father's or husband's name (in the case of married women)	Member's contribution Rs. nP.	Employer's contributions Rs. nP.	Remarks	Space for use in Commissioner's office

Total amount of contribution

Total number of cards for voluntary contributions sent

Total compulsory contribution brought forward from form 'I' (Revised).

Total contributions as per this form I(V) . . . . . Rs.

Rs.

Total contributions . . . . . Rs.

*Details of Payment\**

Nos. and dates of challans/cheques/Bank drafts/pay-in-slips	Amount		Name of Treasury/ Bank in which deposited
	Rs.	pP.	

Dated.....19 .

*Signature of Manager of Coal Mins.*

\*Details of payments are to be shown only in form I(V) outer and not in form 'I (Revised);  
outer.

## FORM 'P' (Revised)

## COAL MINES PROVIDENT FUND.

Monthly abstract of deposits towards the Coal Mines Provident Fund for the month of—

19

(To be submitted to the Coal Mines Provident Fund Commissioner in duplicate by the 15th of each month by Registered Post or through a messenger along with the original chalan/Bank receipt cheque/draft).

1. Total emoluments earned by members of Coal Mines Provident Fund: Rs. . . . .

Compulsory contri- butions (both shares)	Voluntary contri- butions by members
Rs. nP.	Rs. nP.

2. Contributions for the month . . . . .

Add on account of under charges :

	Compulsory contri- bution		Voluntary contri- bution	Total under charges
	Rs. nP.		Rs. nP.	
(i)	.	(i)	.	
(ii)	.	(ii)	.	
(iii)	.	(iii)	.	
				TOTAL . . . . .

4. Deduct on account of over charges—

	Compulsory contri- butions		Voluntary contri- bution	Total over charges
	Rs. nP.		Rs. nP.	
(i)	.	(i)	.	
(ii)	.	(ii)	.	
(iii)	.	(iii)	.	
				Net contribution . . . . .

5. Administrative charges (2.4% on net compulsory contribution)

6. Total amount of contribution and administrative charges : . . . . . Rs. \_\_\_\_\_

7. \*(i) Deposited Rs. . . . . under Treasury Challan No. . . . . dated . . . . .  
in . . . . . Treasury (Original Chalan attached).

\*(ii) Deposited Rs. . . . . in the State Bank of India, Dhanbad on . . . . . for credit to  
Coal Mines Provident Fund Account No. I (Receipted 'Pay in slip' attached).

- \*(iii) Remitted Rs.....*vide* crossed Account Payee Cheque/Crossed Account Payee Draft No.....dated.....on the State Bank of India, Dhanbad, in favour of Coal Mines Provident Fund Account No. 1 (cheque or draft attached).

Manager/Agent.

Dated.....19 .

Colliery, C.M.P.F. Regd.

No.....

Zone

aDelete portions not applicable.

(For use of the Coal Mines Provident Fund Inspector only.)

Received from Coal Mines Provident Fund Commissioner on date.....

Checked with the records of the Colliery on (date).....Discrepancies detected have been included in my Inspection report No.....dated..... Under charges detected have been noted in the corrected contribution cards.

Dated.....19 .

Inspector

Coal Mines Provident Fund.

[No. 2(311)/63-PF.I.]

**G.S.R. 1064.**—In exercise of the powers conferred by section 3 read with section 7 of the Coal Mines Provident Fund and Bonus Scheme Act, 1948 (46 of 1948), the Central Government hereby makes the following Scheme further to amend the Andhra Pradesh Coal Mines Provident Fund Scheme, published with the notification of the Government of India in the late Ministry of Labour No. S.R.O. 657 dated the 12th March, 1956, namely:—

1. This Scheme may be called the Andhra Pradesh Coal Mines Provident Fund (Fifth Amendment) Scheme, 1963.

2. In the Andhra Pradesh Coal Mines Provident Fund Scheme, hereinafter referred to as the said Scheme after paragraph 8, the following paragraph shall be inserted, namely:—

**“8A. Voluntary contribution by members—**

(1) A member may if he so desires, contribute in excess of the compulsory contribution prescribed in Table IV under sub-paragraph (1) of paragraph 8 at a rate not exceeding 8 per cent of total emoluments rounded off to the nearest rupee.

(2) A member desirous of making voluntary contribution under sub-paragraph (1) shall apply to the Commissioner in such form and manner as may be prescribed by him.

(3) The rate of voluntary contribution may be varied by a member at his own discretion within the maximum prescribed in sub-paragraph (1) not more than once in a currency year.

Provided that an intimation of the variation in the rate of voluntary contribution shall be sent by the member to the Commissioner in such form and manner as may be prescribed by him.

(4) The voluntary contribution applied for under sub-paragraph (2) or the variation thereof under sub-paragraph (3), as the case may be, shall take effect from the beginning of a prospective wage period as may be directed in each case by the Commissioner.

(5) The employer shall not be required to add any matching contribution on the voluntary contribution prescribed in sub-paragraph (1) by members in excess of their compulsory contributions prescribed in Table IV under sub-paragraph (1) of paragraph 8.

3. In paragraph 13 of the said Scheme, (1) in sub-paragraph (2) after the words and figures “together with an amount equivalent to two and point four



(2.4) per centum of the total amount of contributions" the following brackets, words and figures shall be inserted, namely:—

"(not including therein the voluntary contribution by members in excess of their compulsory contribution prescribed in Table IV under sub-paragraph (i) or paragraph 8)"

(2) For sub-paragraph (4), the following sub-paragraph shall be substituted, namely:—

"(4) For all payments made by an employer under sub-paragraph (3) upto and for the month of May, 1963 a monthly abstract in Form 'P' annexed hereto and in Form 'P' (Revised), annexed hereto in respect of all payments made thereafter shall be sent by an employer in duplicate separately in respect of each colliery to the Commissioner by registered post or by a messenger on or before the 15th day of each month following the month to which such payment relates together with the appropriate cheques, drafts, receipted pay-in-slip or original receipted challan in token of the employer having made such payment."

4. In paragraph 15 of the said Scheme, after the existing proviso, the following further proviso shall be inserted, namely:—

"Provided further that in the case of a member permitted by the Commissioner in terms of paragraph 8A to contribute voluntarily in excess of his compulsory contribution, the contribution card shall be opened in Form D(V) or E(V) annexed hereto, as the case may be, with effect from the wage period from which the member is permitted to make voluntary contribution."

5. In paragraph 16 of the said Scheme,

(1) after the letters and words "D (Revised) or E (Revised)", the following words, letters and brackets shall be inserted, namely:—

"or D(V) or E(V)"

(2) after the proviso, the following further proviso shall be inserted, namely:—

"Provided further that in the case a member permitted to make voluntary contribution under paragraph 8A the member's contribution and his employer's contribution shall be recorded separately by the employer in the member's contribution card in Form D(V) or E(V), as the case may be."

6. In paragraph 20 of the said Scheme, after the words "as may be appropriate", the following words, letters and brackets shall be inserted, namely:—

"and in Form D(V) or E(V) annexed hereto as the case may be, in respect of members permitted to make voluntary contribution under paragraph 8A."

7. In paragraph 21 of the said Scheme;

(1) the existing paragraph shall be numbered as sub-paragraph (1) thereof,

(2) in sub-paragraph (1) as so renumbered, after the words "in respect of members employed by him" the following words and figure shall be inserted, namely:—

"other than those who make voluntary contribution under paragraph 8A."

(3) after sub-paragraph (1) as so renumbered the following sub-paragraph shall be inserted, namely:—

"(2) Contribution cards in Forms D(V) and E(V) in respect of members having voluntary contribution under paragraph 8A shall be submitted with a separate statement in duplicate in Form I(V) within six weeks from the date of expiration of the period of currency of those contribution cards. In the case of a member who starts making voluntary contribution some time after the beginning of a currency period, his contribution card in Form D(Revised) or E(Revised) relating to that part of the currency period in which the member had no voluntary contribution and his contribution card in Form D(V) or E(V) for that part of the currency period in which the member made voluntary contribution shall be linked together by carrying forward the contri-

tribution recorded in Form D (Revised) or E (Revised) to the contribution card in Form D(V) or E(V). Such linked up contribution cards shall be regarded as contribution cards in Form D(V) or E(V) as the case may be, for submission to the Commissioner."

8. In paragraph 23 of the said Scheme,

(1) In sub-paragraph (2), (a) after the words and brackets "contribution card in Form D(Revised) or E(Revised) as the case may be" the following words, figures and brackets shall be inserted, namely:—

"and in the case of a member who declares in Form Q that he was making voluntary contribution at the colliery where previously employed, under paragraph 8A, in Form D(V) or E(V) as the case may be. The employer shall then."

(b) For the words "the total of the member's and employer's contributions" occurring after the words "or total emoluments, as the case may be and" the following words shall be substituted, namely:—

"the member's contribution and employer's contribution either separately or jointly, as the case may be."

(2) In sub-paragraph (3) after the words "Where such person makes a false declaration in Form Q suppressing the fact of his previous membership of the Fund" the following words shall be inserted, namely:—

"or his voluntary contribution".

9. After Form D(Revised) of the said Scheme, the following Form shall be inserted, namely:—

"Form D(V)"

10. After Form E(Revised) of the said Scheme, the following Form shall be inserted, namely:—

"Form E(V)"

11. After Form I (Revised)—Inner of the said Scheme, the following Form be inserted, namely:—

"Form I(V)—Outer."

12. After Form I(Revised) Inner of the said Scheme, the following Form shall be inserted, namely:—

"Form I(V)—Inner."

13. After Form P of the said Scheme, the following Form shall be inserted, namely:—

"Form P(Revised)".

14. In Form Q of the said Scheme,

(1) after the words "and that am/am not\* a member of the Coal Mines Provident Fund" the following words shall be inserted, namely:—

@ "In the aforesaid coal mine I was making voluntary contribution at the rate of ..... per cent."

(2) after the foot-note the following foot-note shall be inserted, namely:—

"Delete if the member was not a voluntary contributor".

## SUMMARY OF CONTRIBUTION

FORM 'D' (V)

## COAL MINES PROVIDENT FUND

Contribution card for employees other than monthly rated employees

for the period from \_\_\_\_\_ to \_\_\_\_\_

1. Account No. ....
2. Name (in Block capitals) .....
3. Father's/husband's name .....
4. Signature or left thumb impression of the members .....
5. Signature of person preparing card .....
6. Signature of Manager of coal mine .....
7. Registered No. of coal mine .....
8. Name and address of coal mine .....

Period		Contributions		Under Over		Charge(+) Charge(-)	
		Member's share	Employer's share	Member's share	Employer's share		
From	To	Rs.	nP.	Rs.	nP.	Rs.	nP.
1st week	13th week						
14th week	26th week						
27th week	39th week						
40th week	52nd/ 53rd week						

## RATE OF VOLUNTARY CONTRIBUTION

Per cent

	Member's share		Employer's share	
	Rs.	nP.	Rs.	nP.
Compulsory contribution brought forward from form 'D (revised)				
Contributions in this card . . . . .				
Add on account of under charge . . . . .				
Deduct on account of over charge . . . . .				
Net amount of contribution*				

\*To agree with the amount shown in Statement 'I(v)  
for credit to the Members' Fund Account.

Signature of Employer's clerk

Checked and found correct.

Signature of clerk in C.M.P. Office.





## FORM 'E'(V)

## COAL MINES PROVIDENT FUND

Contribution card for monthly rates employees for the period from. . . to . . . .

1. Account No. . . . .
2. Name (in Block Capitals) . . . . .
3. Father's/husband's name . . . . .
4. Signature or left hand thumb impression of member . . . . .
5. Signature of person preparing the card . . . . .
6. Signature of Manager of coal mine . . . . .
7. Registered No. of coal mine . . . . .
8. Name and address of coal mine . . . . .

Month	Total emolu- ments earned	Contributions		Under charges (+) Over charges (—)	
		Member's contri- bution	Employ- er's contri- bution	Members' contri- bution	Employ- er's contri- bution
	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.	Rs. nP.
1st . . . . .					
2nd					
3rd					
4th					
5th					
6th					
Total Carried over					

FORM 'I(V)  
OUTER

## COAL MINES PROVIDENT FUND

Return of contribution cards for voluntary contributions sent to the Commissioner on comple-  
tion of contribution.

Year . . . . . 19 . . . To . . . 19 . . .

(TO BE SENT IN DUPLICATE)

Name and address of coal mine . . . . .

Registered No. of coal mine . . . . .

Sl. No.	Acco- unt No.	Name of member (in block capitals)	Father's or husband's name (in the case of married women)	Member's contri- bution	Employer's contri- bution	Remarks	Space for use in Commis- sioner's office
				Rs. nP.	Rs. nP.		

Month	Total emoluments earned		Contributions				Under charges (+) Over charges (—)			
			Member's contribution		Employer's contribution		Member's contribution		Employer's contribution	
	Rs.	nP.	Rs.	nP.	Rs.	nP.	Rs.	nP.	Rs.	nP.
Brought forward										
7th										
8th										
9th										
10th										
11th										
12th										
TOTAL										

Rate of voluntary contribution.....per cent.

	Member's contribution	Employer's contributions
	Rs. nP.	Rs. nP.
Compulsory contribution brought forward from 'E (Revised)'		
Contributions in this card		
Add—on account of under charge		
Deduct—on account of over charge		
Net amount of contribution*		

\*To agree with the amount shown in the Statement 'I' for credit to Member's Fund Account

Checked and found correct.

*Signature of employer's Clerk.*

*Signature of clerk in C.M.P.F. Office.*

FORM 'I(V)'  
INNER

Sl. No.	Account No.	Name of member (in block capitals)	Father's or husband's name (in the case of married women)	Member's contribution	Employers contribution Rs. nP.	Remarks	Space for use in Commissioner's office

Sl. No.	Account No.	Name of member (in block capitals)	Father's or husband's name (in the case of married women)	Member's contribution Rs. nP.	Employer's contribution Rs. nP.	Remarks	Space for use in Commissioner's office

Total amount of contribution

Total number of cards for voluntary contributors sent

Total compulsory contribution brought forward from form 'I (Revised)'

Rs. ....

Total contributions as per this form I(V)

Rs. ....

Total contributions

Rs. ....

#### Details of Payment

Nos. and dates of challans/cheques/Bank drafts/pay-in-slips	Amount		Name of Treasury/ Bank in which deposited
	Rs.	nP.	

Dated.....19 ..

Signature of Manager of coal mine.

\* Details of payments are to be shown only in form I(V) outer and not in form 'I (Rev)' outer.



## COAL MINES PROVIDENT FUND

## FORM 'P' (Revised)

Monthly abstract of deposits to wards the Coal Mines Provident Fund for the month of ..... 19 .....

(To be submitted to the Coal Mines Provident Fund Commissioner in duplicate by the 15th of each month by Registered Post or through a messenger along with the original challan/ Bank receipt/Cheque/Draft).

1. Total emoluments earned by members of Coal Mines Provident Fund :—

		Rs. ....			
		Compulsory contribution (both shares)		Voluntary contribution by members	
		Rs.	nP.	Rs.	nP.
2. Contributions for the month . . . . .					
3. Add on account of under charges—					
		Compulsory contribution		Voluntary contribution	
		Rs.	nP.	Rs.	nP.
		Total under charges			
		TOTAL			
(i) . . .					
(ii) . . .					
(iii) . . .					
4. Deduct on account of over charges—					
		Compulsory contribution		Voluntary contribution	
		Rs.	nP.	Rs.	nP.
		Total over charges			
		Net contribution			
(i) . . .					
(ii) . . .					
(iii) . . .					

5. Administrative charges (2.4% on net compulsory contribution).

6. Total amount of contribution and administrative charges: Rs. ....

7. \* (i) Deposited Rs. .... under Treasury Challan No. .... dated. .... in. .... Treasury (Original challan attached).

\* (ii) Deposited Rs. .... in the State Bank of India, Dhanbad on. .... for credit to Coal Mines Provident Fund Account No. I. (Receipted 'Pay in slip' attached).

\* (iii) Remitted Rs. .... vide crossed Account Payee Cheque/Crossed Account Payee Draft No. .... dated .... on the State Bank of India, Dhanbad, in favour of Coal Mines Provident Fund Account No. I (cheque or draft attached).

Dated. .... 19 .....

Manager/Agent,

..... Colliery,

C.M.P.F. Regd. No. ....

Zone .....

\*Delete portions not applicable.

(For use of the Coal Mines Provident Fund Inspectors only.)

Received from Coal Mines Provident Fund Commissioner on (date).....

Checked with the records of the Colliery on (date)..... Discrepancies detected have been included in my inspection report No..... dated..... Under charges detected have been noted in the connected contribution cards.

Dated .....19 ..

*Inspector,  
Coal Mines Provident Fund.*

[No. 2(311)/63-PFI/II.]

**G.S.R. 1065.**—In exercise of the powers conferred by section 3 read with section 7 of the Coal Mines Provident Fund and Bonus Schemes Act, 1948 (46 of 1948), the Central Government hereby makes the following Scheme further to amend the Rajasthan Coal Mines Provident Fund Scheme, published in the notification of the Government of India in the Ministry of Labour and Employment No. S.O. 32, dated the 11th February, 1958, namely:—

1. This Scheme may be called the Rajasthan Coal Mines Provident Fund (Fourth Amendment) Scheme, 1963.

2. In the Rajasthan Coal Mines Provident Fund Scheme, hereinafter referred to as the said Scheme after paragraph 8, the following paragraph shall be inserted, namely:—

“8A. *Voluntary contribution by members*—

(1) A member may, if he so desires, contribute in excess of the compulsory contribution prescribed in Table III under sub-paragraph (1) of paragraph 8, at a rate not exceeding 8 per cent of total emoluments rounded off to the nearest rupee.

(2) A member desirous of making voluntary contribution under sub-paragraph (1) shall apply to the Commissioner in such form and manner as may be prescribed by him.

(3) The rate of voluntary contribution may be varied by a member at his own discretion within the maximum prescribed in sub-paragraph (1) not more than once in a currency period:

Provided that an intimation of the variation in the rate of voluntary contribution shall be sent by the member to the Commissioner in such form and manner as may be prescribed by him.

(4) The voluntary contribution applied for under sub-paragraph (2) or the variation thereof under sub-paragraph (3), as the case may be, shall take effect from the beginning of a prospective wage period as may be directed in each case by the Commissioner.

(5) The employer shall not be required to add any matching contribution on the voluntary contribution prescribed in sub-paragraph (1) by members in excess of their compulsory contribution prescribed in Table III under sub-paragraph (1) of paragraph 8”.

3. In paragraph 12 of the said Scheme,

(1) in sub-paragraph (2) after the words “the total amount of contributions” the following shall be inserted, namely:—

“not including therein the voluntary contribution by the member in excess of his compulsory contribution prescribed in Table III under sub-paragraph (1) of paragraph 8”.

(2) for sub-paragraph (4), the following sub-paragraph shall be substituted, namely:—

“(4) For all payments made by an employer under sub-paragraph (3) upto and for the month of May, 1963 a monthly abstract in form ‘P’ annexed hereto and in form ‘P (Revised)’ annexed hereto in respect of all payments made thereafter shall be sent by an employer in duplicate separately in respect of each colliery to the Commissioner by registered post on or before the 15th day of each month following the month to which such payment relates together with the appropriate cheques, drafts, receipted pay-in-slips or original receipted challans in token of the employer having made such payments”.

4. In paragraph 14 of the said Scheme, the following proviso shall be added at the end, namely:—

"Provided that in the case of a member permitted by the Commissioner in terms of paragraph 8A to contribute voluntarily in excess of his compulsory contribution the contribution card shall be opened in Form E(V) annexed hereto with effect from the wage period from which the member is permitted to make voluntary contribution".

5. For paragraph 15 of the said Scheme, the following paragraph shall be substituted, namely:—

"Every employer shall, in respect of every member in a coal mine to which this Scheme applies, other than an excluded employee, on or before the commencement of each period of currency, open a new contribution card in Form E (Revised) or E(V) annexed hereto, as the case may be, and record in the appropriate columns of the contribution cards entries showing the total emoluments earned by such employee in every month and the total amount of member's contribution and employer's contribution payable in respect of each month for such employee who does not make any voluntary contribution under paragraph 8A. In the case of a member permitted to make voluntary contribution under paragraph 8A the member's contribution and his employer's contribution shall be recorded separately by the employer in the member's contribution card in Form E(V)".

6. In paragraph 19 of the said Scheme, after the words, letter and brackets "in Form E (Revised)", the following words, letters and brackets shall be inserted, namely:—

"or in Form E(V) in the case of members permitted to make voluntary contribution under paragraph 8A".

7. Paragraph 20 of the said Scheme shall be numbered as sub-paragraph (1) thereof and the following sub-paragraph (2) shall be inserted after sub-paragraph (1) so numbered, namely:—

"(2) Contribution cards in Form E(V) in respect of members having voluntary contribution under paragraph 8A shall be submitted with a separate statement in duplicate in Form I(V) within six weeks from the date of expiration of the period of currency of those contribution cards. In the case of a member who starts making voluntary contribution some time after the beginning of a currency period, his contribution card in Form E (Revised) relating to that part of the currency period in which the member had no voluntary contribution and his contribution card in Form E(V) for that part of the currency period in which the member made voluntary contribution shall be linked together by carrying forward the contribution recorded in Form E (Revised) to the contribution card in Form E(V). Such linked up contribution cards shall be regarded as contribution cards in Form E(V) for submission to the Commissioner".

8. In paragraph 22 of the said scheme,

(1) For sub-paragraph (2), the following sub-paragraph shall be substituted, namely:—

"(2) Where any such person makes a declaration in Form 'Q' to the effect that he was a member of the Fund, the employer shall open for him a new contribution card in Form 'E (Revised)' and in the case of a member who declares in Form 'Q' that he was making voluntary contribution under paragraph 8A at the colliery where previously employed, in Form 'E(V)'. The employer shall then enter therein the total emoluments, the member's contribution and employer's contribution either jointly or separately, as the case may be, to be paid by the new employer during the remaining part of the period of currency during which such person has worked under the new employer. The employer shall at the same time, take steps to verify the truth or otherwise of the statement from his former employer, who shall be bound to furnish the required information".

(8) In sub-paragraph (3), after the words "where such person makes a false declaration in form Q suppressing the fact of his previous membership of the Fund", the following words shall be inserted, namely:—

"or his voluntary contribution".

9. After Form E (Revised) of the said Scheme, the following Form shall be inserted, namely:—

"Form E(V)"

10. After Form I (Revised) Outer of the said Scheme, the following Form shall be inserted, namely:—

"Form I(V) Outer".

11. After Form I (Revised)—Inner of the said Scheme, the following Form shall be inserted, namely:—

"Form I(V)—Inner."

12. After Form P of the said Scheme, the following Form shall be inserted, namely:—

"Form P(Revised)".

13. In Form Q of the said scheme,

(1) after the words "and that am/am not\* a member of the Coal Mines Provident Fund", the following words shall be inserted, namely:—

"@In the aforesaid coal mine I was making voluntary contribution at the rate of ..... per cent".

(2) after the foot-note, the following foot-note shall be added, namely:—

"@ Delete if the member was not a voluntary contributor".

### FORM 'E' (V)

#### COAL MINES PROVIDENT FUND

*Contribution card for monthly rates employees for the period from..... to.....*

1. Account No.....
2. Name (in Block Capitals) .....
3. Father's/husband's name .....
4. Signature or left thumb impression of member .....
5. Signature of person preparing the card .....
6. Signature of Manager of coal mine.....
7. Registered No. of coal mine.....
8. Name and address of coal mine .....

[illegible]

FORM 'I(V)'

OUTER

## COAL MINES PROVIDENT FUND

*Return of contribution cards for voluntary contributors sent to the Commissioner on completion of contribution Year.....19..... To.....19.....*

(TO BE SENT IN DUPLICATE)

Name and address of coal mine .....

Registered No. of coal mine .....

Sl. No.	Account No.	Name of member (in block capitals).	Father's or husband's name (in the case of married women).	Mem- ber's contri- bution.  Rs. nP.	Employ- ers' contri- bution  Rs. nP.	Remarks	Space for use in Com- mission- er's office.

Month	Total emoluments earned	Contributions				Under charges Over charges		(+) (—)	
		Member's contri- bution		Employers' contri- bution		Member's contri- bution.		Employer's contri- bution.	
	Rs. nP.	Rs.	nP.	Rs.	nP.	Rs.	nP.	Rs.	nP.
B.F.									
7th									
8th									
9th									
10th									
11th									
12th									
TOTAL :—									

Rate of voluntary contribution.....per cent.

	Member's contribution		Employer's contribution	
	Rs.	nP.	Rs.	nP.
Compulsory contribution brought forward from 'E (Revised)				
Contributions in this card.				
Add—on account of under charge.				
Deduct—on account of over charge				
Net amount of contribution				

\* To agree with the amount shown in the Statement 'I' for credit to Member's Fund Account

Signature of employer's clerk

Checked and found correct.

Signature of clerk in C.M.P.F. Office.

## FORM I(V)

## INNER

Sl. No.	Account No.	Name of member (in block Capitals)	Father's or Husband's name (in the case of married women)	Member's contribution Rs. nP.	Employer's contribution Rs. nP.	Remarks	Space for use in Commissioner's office

S. No.	Account No.	Name of member (in block capitals)	Father's or husband's name (in the case of married women)	Member's contribution Rs. nP.	Employer's contribution Rs. nP.	Remarks	Space for use in Commissioner's office

## Total amount of contribution.

Total number of cards for voluntary contributors sent .....

Total compulsory contribution brought forward from form 'I (Revised)' .....

Total contributions as per this form I (V) Rs. ....

Total contributions Rs. ....

## DETAILS OF PAYMENT

Nos. and dates of chalang/cheques/Bank drafts/pay-in-slips.	Amount		Name of Treasury/ Bank in which deposited
	Rs.	nP.	

Dated.....19.....

Signature of Manager of coal mine.

\*Details of payments are to be shown only in form I(V) outer and not in form 'I (Revised)' Outer

7. \*ii) Deposited Rs..... under Treasury Chalan No.....dated .....  
in.....Treasury (Original chalan attached).



\* (ii) Deposited Rs..... in the state Bank of India, Dhanbad on.....  
for credit to Coal Mines Provident Fund Account No. I (Receipted 'Pay in slip'  
attached).

\* (iii) Remitted Rs..... *vide* crossed Account Payee Cheque/Crossed Account  
Payee Draft No..... dated..... on the State Bank of India,  
Dhanbad, in favour of Coal Mines Provident Fund Account No. I (cheque or draft  
attached.)

Dated.....19.....

Manager/Agent

\_\_\_\_\_Colliery,  
C.M.P.F. Regd. No.....  
Zone. ....

\*Delete portions not applicable.

(For use of the Coal Mines Provident Fund Inspectors only)

Received from Coal Mines Provident Fund Commissioner on (date).....

Checked with the records of the colliery on (date)..... Discrepancies detected have  
been included in my Inspection report No..... dated..... Under charges  
detected have been noted in the connected contribution cards.

Dated.....19....

Inspector

COAL MINES PROVIDENT FUND

[No. 2(311)/63-PFI/III.]

SHAH AZIZ AHMAD, Dy. Secy.

#### ERRATUM

In issue No. 24 of the Gazette of India, Part II—Section 3(i), dated 15th June, 1963 (Weekly) at pages 1123 to 1128, the G.S.R. Nos. may be read as 1006 to 1019 in place of 1106 to 1119.

